

# *The* **MARINE CORPS GAZETTE**

Colonel Louis McC. Little, U. S. Marine Corps, Editor

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Vol. XIII.

DECEMBER, 1928

No. 4.

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PUBLISHED QUARTERLY BY

## THE MARINE CORPS ASSOCIATION

LOMBARD AND SOUTH STREETS, BALTIMORE, MD.

Editorial Office: Headquarters Marine Corps, Washington, D. C.

Application made for transfer of Second Class mailing  
privileges from the Post Office, Philadelphia, Pa., to the  
Post Office, Washington, D. C.



*Second Lieutenant Earl A. Thomas, U. S. Marine Corps.  
Killed in action near Quilali, Nicaragua, October, 1927.*

**SECOND LIEUTENANT EARL ALBERT THOMAS,  
U. S. MARINE CORPS**

LIEUTENANT THOMAS, attached to Observation Squadron 4M, was a member of an air patrol in Nicaragua on October 8, 1927 when his plane crashed near Quilali. Members of an escort plane saw Lieutenant Thomas and his observer, Sergeant Frank E. Dowdell, clear the wreckage before it burst into flames, and take refuge on a hill. Since then nothing has ever been seen of him nor his observer, despite the fact that every effort possible has been made in their behalf.

Following is an extract from a report, dated October 10, 1927, bearing the signature of Second Lieutenant F. D. Weir, U. S. Marine Corps, Operations Officer, Observation Squadron Seven — M, Managua, Nicaragua:

"8, October 1927. two 02B-1 airplanes Nos. 6915 and 6920, Lt. Thomas pilot with Sgt. Dowdell and Marine Gunner Wodarczyk with Sgt. Viar, observer, took off for a reconnaissance (at 0735) flight to Nueva Segovia. Lt Thomas crashed near Quilali. Marine Gunner Wodarczyk landed at Ocotal at 1050. \* \* \* "

On November 23, 1927 the commanding officer of the Marine Corps detachment at Managua, Nicaragua, reported that in his opinion Second Lieutenant Earl A. Thomas and Sergeant Frank E. Dowdell had been killed by bandits after their plane had crashed on October 8th. He based his opinion on information from a man friendly to the American forces. He reported that two marines removed a machine gun from the wrecked plane and attacked the outlaw forces nearby killing four of them before machine-gun ammunition was expended. The two marines then escaped with only their pistols and later captured two of the enemy whom they forced to act as guides. One of the captives succeeded in cutting one of the marines badly with a machette. The bandit was then shot by the other marine while the other prisoner escaped and divulged the hiding place of the Americans to his leader. The marines were then attacked by the outlaws in a cave where they made their last stand and were reported to have been killed by a sniper after they were able to account for two more of the enemy.

The court of inquiry which convened in December, 1927, to inquire into and report upon the circumstances attending the disappearance of Lieutenant Thomas and Sergeant Dowdell was of the opinion that they met their deaths defending themselves against a superior force of bandits. However, the Judge Advocate General of the Navy ruled that inasmuch as no conclusive evidence was offered to support the belief that they were in fact dead, augmented by the fact that their remains had not been recovered, Lieutenant Thomas and Sergeant Dowdell should be borne on the rolls of the Marine Corps as missing for a period of one year.

Not until October 20, 1928, however, were Lieutenant Thomas and Sergeant Dowdell officially declared dead. The official declaration of the Judge Advocate General was based upon the findings of the above-named court of inquiry, and the fact that no further evidence was obtainable during the past year to indicate that they were still alive. The official declaration states:

"Second Lieutenant Earl Albert Thomas, U. S. Marine Corps, killed October 8, 1927, while defending himself against superior force of bandits near Quilali, Nicaragua."

The same words were employed in the official declaration with regard to Sergeant Dowdell.

Lieutenant Thomas was born August 3, 1900 at Richmond, Indiana; served in the U. S. Navy from June 14, 1918 to February 17, 1919. He enlisted in the Marine Corps October 20, 1921 and was honorably discharged April 23, 1924 to accept appointment as a second lieutenant in the Marine Corps; which appointment he did accept on April 24, 1924 at Marine Barracks, Washington, D. C. Lieutenant Thomas' first assignment to duty as a commissioned officer in the Corps was at the Marine Barracks, Norfolk, Virginia, where he joined April 28, 1924. Detached from Norfolk, January 23, 1925, he next joined at Marine Barracks, Philadelphia, Pa., where he underwent instruction in Basic School. He graduated from Basic Class June 27, 1925, was awarded diploma and certificate of graduation, and detached same date. On July 2, 1925 he joined at Marine Barracks, Parris Island, S. C., where he remained until December 2nd. On January 3, 1926 Lieutenant Thomas returned to Quantico where he received preliminary instruction in aviation. Detached from this duty on February 5, he proceeded to Naval Air Station, Pensacola, Florida, where he was detailed on February 15th as a Student Naval Aviator for duty involving actual flying in aircraft. On October 19th he was detached and again joined at Marine Barracks, Quantico, Va. in November, 1926. On December 22, 1926 he was detailed as a Naval Aviator and was engaged in aviation duties until May of the following year. On May 12, 1927 he sailed from Quantico via USS MEDUSA and disembarked May 23d at Corinto, Nicaragua. During the month of June, and a part of July, 1927 he was Operations Officer at Managua. On July 16 Lieutenant Thomas participated in active operations against hostile bandits at Ocotal, Nicaragua.

On July 22, 1927 he was assigned to permanent station with Observation Squadron 7, attached to the Fifth Regiment, Second Brigade of Marines, Nicaragua, as Operations and Communications Officer, in which duty he was engaged until October 8th, the date of the unfortunate crash at Quilali.

The Secretary of the Navy, in a letter of commendation, dated November 26, 1928, states as follows:

"Second Lieutenant Earl A. Thomas, throughout his duty in Nicaragua worked unceasingly under the most trying weather conditions, keeping the material in order, and in operations of Nueva Segovia. Up to the time he crashed near El Chipote, Nicaragua, on October 8, 1927, while engaged in combat with bandit forces of Sandino, he assisted and co-operated with the ground forces in every possible way, and by his acts of valor inspired all members of the Brigade.

"The Board of Awards in the Navy Department, to which are referred all reports of meritorious conduct on the part of the personnel of the Navy and Marine Corps, has reported that it considers the action of the late Second Lieutenant Earl A. Thomas to merit high commendation, and has recommended that he be awarded posthumously a special letter by the Secretary of the Navy. It is a pleasure to comply with the Board's recommendation in this instance."



As the closing paragraph, in the letter of commendation referred to, and which was addressed to Mrs. A. C. Thomas of Richmond, Indiana, who is the mother of Lieutenant Thomas, the Secretary of the Navy goes on to say:

"Your son's gallant conduct, courage and devotion to duty were in keeping with the best traditions of the Naval Service, and merit and receive my high commendation. It is indeed a pity that his career in the service, thus splendidly begun, should have been so soon ended by his untimely death. His memory, however, will remain long in the hearts of his brother officers."

## SAVANNAH—1778

By BRIG. GENERAL GEORGE RICHARDS, U.S.M.C.

**I**N 1777, when the British failed in their attempt to cut off New England and Burgoyne's effort from Canada had ended in his surrender, great events followed.

The French people had not even in the beginning been indifferent to what was going on on this side of the Atlantic. At almost the outset of our struggle, munitions came to us from France—secretly of course—and French officers passed into our service without hindrance from their Government.

The influence, the work, the skillful management of Beaumarchais and his associates in providing, when skies were darkest, guns, ammunitions, and money for the American Army, form an episode in Franco-American relations too little known and too seldom remembered.

Following Burgoyne's surrender, however, France openly declared war against England, and on February 6, 1778, signed an alliance with America. In that Treaty, France expressly renounced any claim to recover her lost territory of Canada and Nova Scotia, foreshadowing in this respect the American political theory later known as the Monroe Doctrine.

That alliance gave to our cause what above all was most needed—a sea power to counter-balance that of England. France, after the disastrous seven years war spent, under the enlightened policy of Louis XVI, much time and money on the rehabilitation of her Navy. From Toulon, on April 13, 1778, there sailed the Fleet of Count d'Estaing, destined for America, his objective to wrest from the British, if possible, the control of the Atlantic Sea.

Unforeseen and unfavorable circumstances, including the lengthy voyage to the Delaware Capes, interfered with d'Estaing's success—and, after the summer had been spent in fruitless manoeuvres in the North Atlantic, he sailed in November to refit his fleet in the West Indies.

He encountered the British Fleets with varying success during that Winter and the Spring of 1779, when word reached him of the capture by the British of Savannah, with urgent appeals for his return to American waters. He had orders in hand directing his return to France, but he did not obey them. From the French Colonies in the West Indies he refitted his fleet in men and supplies and sailed for Savannah.

Haiti, one of these Colonies, was then known as the Sainte Dominique. D'Estaing, in refitting, embarked at Sainte Dominique 800 mulattoes and blacks. These sons of Haiti came to America and shed their blood in the effort of the French and American troops to recover Savannah from the British. Amongst those Haitians who fought under our Flag were Beauvais, Rigaud, Chauvannes, Jourdain, Christophe, Lambert, and others later distinguished in the subsequent struggles of their own countrymen for independence.

In Jones' History of Georgia, the Franco-American forces operating before Savannah in the Fall of 1779 are listed. The Division of d'Estaing included 156 Volunteer Grenadiers from Cape Francois and 545 Volunteer Chasseurs from

Sainte Dominique. The latter included troops from Port-au-Prince and Cape Francois, as Cape Haitian was then known.

We marines are proud to remember, when considering our responsibilities in connection with our present-day problems in Haiti, our obligations to these Haitian patriots in the days when the whirligig of fate had brought Napoleon Bonaparte to the headship of France.

The peculiar though consistent statesmanship of John Adams had led the United States to where she was almost making common cause with England against her earlier ally—for Napoleon by the Treaty of San Ildefonso had obtained a return from Spain of title and possession of Louisiana, the vast tract that LaSalle had discovered in his wide voyaging down the Mississippi to the Gulf.

Napoleon's dream of Empire had narrowed itself to the establishment at New Orleans of a French-Colonial administration that should cramp the expanding strength of the new Republic. Napoleon was then none too friendly to the United States. Also he wished to checkmate England, the hereditary enemy of France.

I say we do well to remember that, in 1802, Thomas Jefferson said: If France takes possession of New Orleans it means that we marry ourselves with the British Navy and the British Nation," and that France was prepared to take that possession.

The late Gaillard Hunt, a student of American history, once said that he never passed the old Chesapeake and Ohio Canal or came in its sight without feeling an impulse to lift his hat in solemn reverence. "But for that," he said, "we might never have had the Constitution of the United States." This is true.

From a boy of sixteen, Washington's dream was of an easy and short communication between the waters of the Ohio and the Potomac. As a man of business, he recognized that the Valley of the Mississippi, with all its resources, was certain to be the terminus of the country's trade. He bent his energies, after the Revolution, toward opening the Potomac as the avenue of communication. Railroads then were not to be dreamed of. In 1785, he obtained the charter for his proposed company, became its President, gathered representatives from Maryland and Virginia to unite upon some plan to settle questions of jurisdiction. This meeting decided that Pennsylvania should be consulted and induced to cooperate. The Maryland Legislature, in approving the plan, held that Delaware should be consulted. Then Virginia, in assenting, said it would be well to ask commissions from all the States to gather at Annapolis to consider the general question of commerce. It was this meeting at Annapolis in September, 1786, that petitioned the Congress to call a Convention at Philadelphia to devise means to make the Constitution of the Federal Government adequate to the exigencies of the Union.

This shows that our country became organized as a political body under the Constitution of the United States to meet our people's economic need. But the thoughtful student of American history cannot fail to perceive that such an or-

ganization came only as the result of two wars. And the economic prize that fell to the victor in each of these wars was the same.

Both the Seven Years' War and the War of the Revolution were a part of the whole and cannot be disassociated. The victory of 1763 by Great Britain in the first war determined the outbreak of the second. The moment the French were expelled from the Valley of the Mississippi and this region opened to English emigration, American consolidation became inevitable. The new empire of the West was not, in Washington's view, to be the appendage of an economic system centered in London—it had to be centered at some point on American shores.

It will be interesting to note here but one statement of Washington. In 1785 he wrote in opposition to the opening of the Mississippi, its outlet to the sea being then not under the control of the United States. He said: "However singular the opinion may be, I cannot divest myself of it, that the navigation of the Mississippi at this time ought to be no object with us. On the contrary, until we have a little time allowed to open and make easy the ways between the Atlantic States and the Western territory, the obstructions had better remain." That obstruction, the Port of New Orleans and the vast territory West of the Mississippi, was then no possession of ours. Between New Orleans and France there was another French possession—Sainte Dominique. Between Napoleon and his dreams of empire overseas there had arisen battalions of a generation of heroic blacks. The blacks under Toussaint L'Ouverture had risen against the French as before they had stood for the French.

In one of his Thanksgiving sermons, Rev. Frank DeWitt Talmage gives the following account of the service rendered the United States by Toussaint L'Ouverture:

"The next great geographical expansion to which I would call your attention is the Louisiana Purchase. The indirect cause of this purchase is almost unknown to the majority of American citizens. And, in order to give the historical setting of this transaction, I shall first introduce to you as strange and weird a personality as George Rogers Clark. This man is not a white man, but a full-blooded negro. He is not living in France or Spain or in the United States, but in the island of San Domingo. And yet this negro, this ex-slave, named Toussaint L'Ouverture, whom Napoleon betrayed by false promises and brutally starved to death in the French dungeon of Joux, had as much to do with the Louisiana Purchase as Robert Livingston or Thomas Jefferson the President. Here it was in the days of Robespierre and Marat and Danton, led on by this modern Spartacus called Toussaint L'Ouverture, that the slaves of that island rose in their might and fought for the honor of their manhood and womanhood and won their independence, and called their brave leader, Toussaint L'Ouverture, their national chief. That was in 1801. \* \* \* Then came the treaty of Amiens of 1802. \* \* \* The 'Little Corporal' said to himself, 'I must have something to fight. I must keep my soldiers employed.' So he looked over the map and said, 'Here is Sainte Domingue. I will reconquer it, and again enslave its negroes.' The

flower of the French army set sail for this far-off island. \* \* \* Toussaint L'Ouverture is treacherously betrayed and carried to France a prisoner, but his lieutenants of war continued his patriotic work. These disciples of the Washington of this Southern island, noble and brave, aided by the pestilence and disease which fought for them, drove the French troops, step by step, until, within a few months, six-sevenths of all the unprincipled French invaders were dead. \* \* \* Napoleon, the Great Napoleon, the mighty conqueror Napoleon, who had royal diadem, said: 'If a few negroes in far-off Sainte Domingue can destroy my legions, I cannot hold Louisiana in case of war. I must sell right away.' \* \* \* his dreams of making the rich territory of Louisiana the brightest star in his Thus, all of Indian Territory, all of Kansas and Nebraska and Iowa and Wyoming and Montana and the Dakotas and most of Colorado and Minnesota and all of Washington and Oregon States, came to us as the indirect work of a despised negro. Praise, if you will, the work of a Robert Livingston or a Jefferson, but today let us not forget our debt to Toussaint L'Ouverture, who was indirectly the means of America's expansion by the Louisiana Purchase of 1803."

Toussaint L'Ouverture and the men of Haiti, reinforced by yellow fever, and dominated and directed, we believe, by the Providence of Almighty God, saved the United States from what would have been a world-wide and an age-long catastrophe, a war with France. They flung our eminent domain across the continent and spread American beneficent control from the Atlantic to the Pacific.

This is what we of the United States Marine Corps prefer to remember as an indebtedness of America, in these days of our duty to the people of Haiti. They need in a marked degree our sympathy and our friendly co-operation. Ours is but an unselfish effort to insure the happiness and prosperity of the Republic of Haiti.





## ON THE ISTHMUS—1885

By COLONEL H. C. REISINGER, U.S.M.C.

**I**N APRIL, 1885, General Elliott, then a first lieutenant, saw service with the Marine Corps Expeditionary Forces on the Isthmus of Panama. As is customary with him, his memory does not turn back to this incident of his long career to recall simply a succession of routine duties, marches or inspections, but centers upon one or two unusual happenings during that service, surrounded by local color depicting the conditions of life on the Isthmus in those days.

Panama was in 1885 a state of Colombia, a country for a long time noted for its turbulence. The habit of revolution was very strong in all classes of its population and at least two generations had been born and grown to manhood in an atmosphere of political intrigue, domestic violence, riot, and pillage. History shows that for the period of 57 years prior to 1902 there had occurred fifty-three upheavals of one kind or another, all of which were attended with loss of life, destruction or orderly government and great property damage.

The situation on the Isthmus in 1885 that called for sending a marine expeditionary force was brought about briefly as follows. The national government was threatened by a revolution which had its inception in the State of Cauca about 300 miles south of Panama, and to combat this outbreak the State of Panama was depleted of national troops. General Aizpuru, a recognized leader of the liberal party—at that time the "outs"—seized the government and the Isthmian railroad, and his troops, getting out of hand, waged a lawless, savage conflict within the territory occupied. They not only destroyed private property and violated the sanctity of the home, but forced "loans" from all who possessed any remaining property. Furthermore, they broke the line of communication across the Isthmus and destroyed commercial as well as diplomatic mail. When General Aizpuru moved to seize Panama, Aspinwall (now Colon) was taken possession of by Prestan, a Haitian mulatto, the leader of an extremely radical wing of the Liberales. Prestan was subsequently defeated in a small fight at Monkey Hill, retired to Aspinwall and when forced to evacuate it burned the city. After his departure a force of about 100 national troops occupied Aspinwall, the rest of the Isthmus, including the railroad, being under the domination of General Aizpuru.

The United States Government had, in 1848, entered into a treaty with the state of New Grenada, which afterwards became a part of Colombia, to maintain open communications across the Isthmus of Panama, and under this treaty obligation the American forces were landed on the Isthmus in 1885 to maintain order, open communications, and to protect American lives and property.

Let General Elliott pick up the story from this point. It might be well to mention, however, that the General, while stationed at San Pablo, was forced because of local conditions to take the law somewhat in his own hands, and that his action met with the approval of the force commander is indicated by the following extract from his report to the Secretary of the Navy: "Lieutenant Elliott, who commanded the garrison of San Pablo under the general direction of Captain

Huntington, is a remarkably good officer. Thrown upon his own resources, he at once established an excellent set of regulations for the government of the post. . . . ”

“In March, 1885, I was stationed at the Navy Yard in Norfolk” the General began. “At that time conditions had been going from bad to worse down on the Isthmus and towards the latter part of the month the word got out that there was a likelihood of an expedition being sent down to take a hand, so I wasn’t surprised when I got my orders. The first part of April a battalion of marines was assembled at New York under command of General Charles Heywood, then a brevet lieutenant-colonel, and sailed on the “CITY OF PARA.” This outfit arrived in Aspinwall about April 11 and the next day under orders from Admiral James E. Jouett, who commanded the North Atlantic Fleet, proceeded to open up communications from Aspinwall to Panama (it took them but one day to do the job) and then occupied the railroad property just outside of Panama City. A few days after the first battalion left, a second battalion was ordered assembled at New York. This battalion was under command of Captain Higbie and sailed from New York City on the “ACAPULCO.” In addition to the marines, 150 bluejackets were sent along and Commander (later rear admiral) Bowman H. McCalla of the Navy was ordered as force commander. I went with this second battalion in a company commanded by Colonel Huntington, then a captain. As I recollect, this whole force eventually totaled around 700 officers and men, and as the Marine Corps in 1885 was a very small organization, about 1900 officers and men, all posts in the United States had to be stripped to make up this number. Collum, George C. Reid, Meade, Muse, Kelton, Harrington, Goodrell, and a lot of other old timers were all junior officers in those days and gathered in for this trip.

“The Norfolk detachment under Huntington numbered 125 enlisted men. We were put aboard the U.S.S. “DESPATCH,” a yacht previously owned by the Gould family of New York, for transportation to the assembly point. The number of passengers embarked so crowded this small vessel that there was standing room only for the men—and that on the forecastle—and the situation was nearly as bad for the officers. While off Barnegat we ran into a strong northwesterly wind, which soon kicked up considerable sea. The “DESPATCH” was old and worn out and her boilers soon began to make trouble. The engine room force, although doing such repair work as they could, reported it was out of the question to keep steam on the ship. Bill Emory, afterwards rear admiral, commanded the “DESPATCH” and with that quick appreciation of a situation which always distinguished him ordered the chief engineer to keep the ship under way at all hazard, realizing that in its crowded condition and with the sea constantly rising to stop might well mean disaster. We finally managed to crawl inside of Sandy Hook where Emory anchored. Luck was certainly with us, for the worst that happened was that all hands got a thorough drenching. Just the same, it had been touch and go for a while as the weight of the men on the forecastle was so great that the whole super-

structure began to "work" as the ship tossed about and it was only a question of time before something gave way. A tug dropped down and picked us up and soon we joined forces with the others at New York.

"We made the trip down without incident, reaching Aspinwall about the middle of the month. We moored to the sea wall and Admiral Jouett inspected us next morning.

"The Aspinwall of those days was nothing like the Colon of today. There was no "Strangers Club," no Washington Hotel, and what remained of the city after Prestan burned it was nothing but one row of houses on the main street and quite extensive railroad shops.

"Little actual progress had been made in digging the Canal, but a lot of preliminary work had been accomplished by the French. Hospitals, camps for the workmen, stores, docks and wharves had been constructed. There was a large hospital outside of Aspinwall and also one in the neighborhood of Ancon Hill, on the Pacific side. The Canal strip had been cleared to a distance of about 120 yards on either side, but this work had not been kept up with the result that at the time we were there the jungle had crept back into the cleared line.

"There was no law in Panama while we were there, nor an adequate Colombian force to execute the simplest civic functions, so we had to supply the police force for the Isthmus. The city of Panama was then filthy, odorous, and neglected. The streets were narrow, very poorly lighted and never clean. When the tide was out and left the flats in front of the city exposed to the sun, there arose therefrom a terrific stench. The revolution destroyed any semblance of law, everyone did much as he pleased and the lucky survived. Murders, assaults and robberies were going on all the time, both day and night; dens of all kinds of vice ran openly, and gambling devices invaded the sidewalks which were crowded during the whole twenty-four hours with adventurers and adventuresses from all quarters of the globe.

"Soon after our arrival in Aspinwall, Huntington was sent with his company and 120 sailors to Matachin, a place said to be the rendezvous of some bad hombres who were bent on making trouble. We were provided with a special train and rushed up the line at top speed. I remember that even in those days such places as Gatun, Lion Hill and Monkey Hill existed.

"When our train stopped at Matachin, Huntington detached me and with 36 marines and a Howitzer Platoon of bluejackets under Lieutenant Alex Sharp we proceeded to San Pablo; there were about fifty in the party. This Navy detachment was armed with one of those old-fashioned twenty pound brass howitzers such as you see stuck around the Navy Yards for ornaments. We had twenty rounds of ammunition for this gun but did not expend any of it. My men carried on their persons sixty rounds of ammunition and three days' rations, which, together with their blanket-roll, haversack and canteen made quite a stiff load for a hot weather hike of 12 miles, especially in our uniforms. We had blue clothes only with us and wore the thick blue flannel shirt, wool trousers and the old flat-topped French cap. As this was April and the hot season, we were not

very comfortable. By the way, that blue shirt had a white cotton neck band and was intended to be worn with a paper or celluloid collar. I had an old trunk which I always carried with me on expeditionary duty. It contained a small tent, a few tools, and odds and ends, and also a stock of grub. This trunk we lashed on top of the Howitzer and at 4 o'clock in the afternoon with almost every one manning the drags, we started off down the railroad track, the Howitzer bumping along over the ties. There was no other road. Somehow or other, the Howitzer held together despite the rough usage and came through in fair shape. When we reached San Pablo in the early evening, we found three very polite Frenchmen who were sub-contractors on that section and they were glad to see us. One of these gentlemen spoke very good English.

"As our principal job at San Pablo was to guard the long railroad bridge that crossed the Chagres River, I went at once to take a look at it and post sentries. I found the bridge, which was of wood, to be over 200 yards in length and about forty feet above the stream. At first, because of the small number of men with me, I posted the sentries singly, but I soon found that they were not very keen about being by themselves at night time. The stream was alive with large alligators that during the night would bellow like bulls, and in the thickets along the river you could hear unseen wild animals moving. There were also plenty of snakes, big ones and little fellows all over the place.

"I was some time away from camp posting the sentries and examining the bridge, and when I came back I found plenty of trouble awaiting me. The building next to the one we were to occupy was a Chinese store, built of boards and with board shutters. These Chinos sold all sorts of merchandise and ran a bar. The whiskey they peddled was good and, being imported duty-free, very cheap. I found several of our old-timers—they were pretty hard boiled—had been into the bar and were uproariously drunk. After considerable difficulty in which it was necessary to employ force to subdue them, we got the men settled and things quieted down.

"The Frenchmen turned over to us a new and unused building with a wide veranda along the front to be used as our barracks. There was nothing in the way of furniture but two chairs, one a rocker, and this I appropriated and put on the porch and that became recognized as my office. There had been installed in this building a big new French range, which came in handy when our rations arrived the day following. Paymaster Rand sent us from Aspinwall enough chow in the first shipment to feed a regiment for a month and we lived high, I can tell you.

"That night we made our acquaintance with the rats, dogs, fleas and mosquitos that infested San Pablo. The rats crawled all over the sleepers, gnawed our leather equipment and got into everything. All night long hungry pariah dogs cruised for food, fought with each other and generally made all the racket that was possible. The fleas and mosquitos were on the job every day twenty-four hours—and we had no mosquito nets. In addition to these pests it was the moist season and everything was damp, shoes mildewed over night and mattresses and



bedding soon became offensively odorous. You could wring water out of our flannel shirts in the morning.

"At San Pablo there were three or four so-called camps for the Jamaican negro laborers. These camps were in reality bare frame buildings about 150 feet long, 30 feet wide and set up on posts about 7 feet above ground. There were no partitions inside the building and all "rooms" were indicated by chalk marks. There was no furniture and no beds of any description; the scanty belongings of the laborer were placed within the chalk marked space allotted to him. All cooking was done by the workmen or their women beneath the house so that the interior was usually shrouded in smoke, a condition which might seem a serious inconvenience to a white man but to them, as it counteracted the effect of the mosquitos, it was a very comfortable arrangement.

"It is hard these days to appreciate the teeming animal life of the Isthmus as we found it. The forests and jungle that crowded in on the narrow cleared strip of the canal right of way had hardly felt the presence of civilization and were thickly populated with jaguars, deer, pecarries, monkeys, pythons and a fine variety of smaller reptiles.

"Deer were small but quite plentiful and easy to kill. Every morning near camp a buck would lead two does to drink in the river. It was a pretty sight to see them, alert, sensitive to danger, and graceful in movement. We came to watch for them about dawn and never bothered them. The fawns and young pecarries were the special prey of the pythons, who would drop down on them from the trees; a hitch and a squeeze and it was all over but the swallowing. Don't you think a python is sluggish, except when just fed. They can travel through the trees or brush with the speed of a race horse, and they carry their heads up above their bodies.

"I made a collection of snakes while in San Pablo, preserving them in fruit jars filled with native rum. It was quite a collection but the coral snakes, very prettily banded, were the most common. There was one variety called by the natives the *Manapa*—that's how it sounded—that was dangerous. It would not run from man and as it grew to eight feet, it was a bad customer to meet.

"We caught a sloth and brought it home with us. It was not a pleasant pet, seeming more dead than alive, and it had enormous, powerful claws and the face of an idiot.

"The handsomest bird I've ever seen was then on the Isthmus. It was very much like a peacock, only a burnished brown and the "eyes" at the ends of the tail feathers were white.

"I was told that the Congo Monkey was on the Isthmus but I never saw one while there. When I was in Brazil I frequently saw them while hunting and they were characters. They were large, black and very hairy and full of curiosity. They traveled in gangs and followed us for miles, watching every move we made. When we camped and they tired of watching us, they played a game that we called 'Simon says thumbs up.' A group would sit in a circle, hands in front of them with thumbs sticking straight up, and they would watch each



other closely. After a while they'd begin chattering and laughing and break up the circle—evidently one of them had been stuck. These monkeys had a sac under their throat that they swelled out before roaring—their roar was like the coughing roar of a lion and as noisy.

"The night before I left San Pablo there was a big scrap up in the hills. From the racket I think three jaguars killed a bull, but he put up a twenty minute fight before they got him. It was so close that we could hear the roar and charge of the bull and the whines and snarls of its attackers. I was going up there the next night on the chance for a shot, but orders came in the morning to break up camp.

"It did not take long for the detachment to have as many pets as there were enlisted men; dogs, monkeys and parrots being the most fancied. Most of the jungle creatures were quite tame, and the snakes altogether too much so. We frequently had to burn over the brush to keep the snakes from becoming a serious menace and you had to watch your step at night. There was one large black monkey who had a white face that adopted us. He came in out of the woods of his own accord and was filled with curiosity about everything around the quarters, but particularly seemed interested in the kitchen. While at first he was inclined to decamp if you made an effort to touch him, after he once became familiar with the sugar barrel he could not be driven away. He had one peculiar habit. If he had occasion to go anywhere—and he was always on the move—he would either ride on the shoulder of a marine or on the back of a dog that went with the man, for there was always a dog. I never remember seeing him walk around outside of the quarters—he always rode.

"The size of the pythons on the Isthmus can be appreciated when I tell you that Sharp and I found the dried skin and skeleton of a constrictor in whose jaws there rested the skeleton of a pecarri. As a pecarri is as large as a good-sized shoat, and its whole body had been taken into the mouth of the python before death, some estimate of this snake's actual size can be formed. Fish stories are nothing compared to snake stories that the men brought back from that expedition; although most of them were true no one back home believed them.

"Most of the natives had moved in along the canal strip and built shacks, but there were some settlements back in the woods. It was not a safe country for a white man to travel in alone, for he not only was in considerable danger from the jungle denizens, but there were plenty of bad hombres roaming about unrestrained by law and ready for any devilment, especially if against the foreigners.

"The morning after our arrival I started in to break up the liquor selling by the Chinos. I could see that this was going to be a nuisance greater than the fleas, mosquitos, dogs and rats, and far more dangerous to the health and morale of the command. I went into the Chinese store and made a demand that they stop selling liquor to my men, but I found that they were not inclined to pay the least attention to me. Although I gave them fair warning it had to stop, the traffic went right along and, of course, the drunkenness continued. Matters stood like this for the next day or two and then I determined to take the law into my

own hands. First I renewed my protest to these Chinks but they shrugged their shoulders. Then I took my first sergeant and after borrowing some nails and hammers from the Chinks I nailed up all the window shutters facing our quarters. While this was going on, the Chinamen came out and raised a howl but they would not promise to co-operate with me on the liquor business. There was nothing left to do but to seal up the whole place; and that I did, and as the Chinamen refused to come out when I told them to, they had to stay inside when the job was finished. For the next two or three days the Chinos were prisoners in their store and whenever Sharp or I were around they would call, "Mr. Officer! Mr. Officer! You let us out," and we would parley with them, trying to exact a promise to stop the sale of liquor to the marines. By the end of the week they capitulated and we released them but they were hopping mad when they piled out. The "head devil" dressed himself up in his best; plum-colored trousers, black silk jacket, and cap with a red button on it, and informed me that he was going to report the matter to the French Consul in Aspinwall. He took the next train down and I expected some sort of a row but in a day or two he returned and said nothing about the results of his trip, nor did I hear anything from the powers-that-were. Just the same, we had no more trouble about the sale of liquor. Indeed, if a marine tried to force the Chinamen to sell him a drink, one of their number would come hopping in shouting to either Sharp or myself, "Soldier man, he kletchum dlink," and we would corral the disobedient one.

"Some time afterwards I heard the story of the head Chink's trip to Aspinwall. He went to the French Consul and together they took a shore boat out to the "TENNESSEE" the flag ship of Admiral Jouett, and laid the matter before him. The Chink concluded his complaint with, "This captain he very bad man. He say you sell whiskey my men, I cut off your damn pigtail and then you all go to Hell." The Admiral, hiding his amusement, asked him if he was sure this was what I had said and the Chinamen, thinking that he had made a case against me, repeated it several times. "Well," said the Admiral, "if I were in your place I would stop selling liquor to Lieutenant Elliott's men. I wouldn't trust that man if I were you; if he said he'd cut off your pigtails, he's liable to do it!"

"This was too much for the French Consul. He threw up his hands exclaiming, "Bah! Bah!" and taking the Chink with him, left immediately.

"I had hunted with Admiral Jouett on a number of occasions and he knew me well and felt that what I had done, although high-handed, was demanded by the circumstances.

"No sooner were the Chinks straightened out than a Colombian of the better class started in bootlegging liquor to the men. I protested and he was very suave and polite, disclaiming any part in the matter. I knew, of course, he was lying. He had a very fine Peruvian horse, so again taking the law into my own hands, I appropriated the horse as security against further sales and the traffic ceased immediately. Thereafter, this Colombian became quite friendly and spent a great deal of time around the camp talking to Sharp and myself, and, I strongly suspect, keeping his eye on the horse.

"The 'camp' most distant from our quarters that belonged to the French sub-contractors was filled with a motley crowd of native squatters; they had just moved in, taken possession, and defied the French to oust them. There being no police authority, of course the Frenchmen were helpless. This gang were a bunch of pretty tough customers; they peddled liquor and drugs, grafted on the Jamaican workers and in one instance that came to my personal observation, resorted to torturing to extort money.

"One evening a Jamaican negress—a clean, upstanding, respectable woman—came to me and exhibiting welts and cuts upon her breasts and arms said that they had been made by a machete in the hands of a Panamanian who, together with some of his friends, now held her husband, a carpenter, prisoner and were torturing him to make him disclose the hiding place of their savings. She said it was not very far to the hut where they lived. Taking along with me Sergeant Cranns, who spoke Spanish fluently, I mounted the Peruvian horse and went with her. She led us along the river for about a mile and then turned into a path to her shack which was hidden in the jungle. The light was filtering through the bamboo sides and the door from a fire burning inside. Approaching cautiously with revolver in hand, I peered through the door and by the firelight I could see a man tied down to stakes while around him squatted four others who were toasting his feet over the fire. The sufferer was moaning and twisting but they had not been able to extract from him the hiding place of his money. Sergeant Cranns stepped inside and I standing by the door holding the horse with one hand and covering the hombres with my pistol, ordered them away from the fire and to line up against the wall. The sergeant then released the Jamaican whose feet were so badly blistered he could barely stand. The Jamaican's wife explained our presence and told him to show me where the money was hidden. He pointed to the fire. I had the sergeant carefully move the fire without letting it go out so as not to throw the place into darkness, for these bandits were armed and would not have hesitated to attack us if the opportunity offered. From the warm ground under the fire we dug up an old iron pot in which there was 300 pesos, this man's entire fortune.

"Cranns told the bandits that he and I would remain outside the shack for fifteen minutes while the Jamaican and his wife cleared out for our camp and if they tried to leave the building we would kill them. Then we withdrew and I cautiously mounted the horse, taking the man up behind me and with his wife holding to the stirrup we hurried back to camp. We feared that if the bandits did come out and find us gone they might arouse their friends and in the darkness overtake and probably get the best of us.

"This Jamaican and his wife stayed in our camp for almost a week while his feet were healing, and their gratitude was very touching. The woman proved herself to be a splendid cook and voluntarily went into our kitchen to help prepare meals for the men. Later on, we sent them to the British Consul in Aspinwall and they were sent back to Jamaica to enjoy the fruits of their labor.

"The Frenchmen in charge of the canal work in the San Pablo section main-

tained three watchmen to patrol their property, and fortunately for us one of these natives soon picked up some English. They used to make their rounds at night with a lantern swung to the end of a stick. This they held in front of them in order to give timely warning of snakes, and to avoid as much as possible the broken bottles lying all over the place. It seemed *custombre* for both the Jamaicans and the Panamanians, as soon as they had finished drinking from a bottle, to throw it down, so that the ground in the vicinity of the Chino store was covered with broken glass. One evening about dusk I was sitting in my rocker on the front porch of our quarters with Alex Sharp when the watchman who spoke English stopped in front of us and began to hop up and down like a monkey chanting, "They try to blow up with dynamite." He repeated this two or three times and then incontinently fled down the road. At first neither Sharp nor I could quite make out what it was all about but suddenly I had a hunch and calling the sergeant I ran behind our quarters with my revolver in my hand. Our building, while on the street level in the front, was about four or five feet off the ground in its rear where the hill fell away to the river. As I reached the back of the building I saw a native dash from under it and run towards the nearest "camp" of Jamaican laborers. I ran after him as fast as I could—I could have shot him but I did not want to if it could be helped—and saw him leap up the steps into the building. The first sergeant joined me about the time I reached this bunk house and we entered the door together. There behind the door the man crouched, a knife in his hand. When he saw me he stood erect and I hit him; he came up again and then dropped two sticks of dynamite, one with a mercury capsule attached, and tried to tramp on them. I hit him again with my revolver and he dropped and stayed down. About this time we were joined by a sailor named Dinsmore and a young marine named Edwards; they picked up the native and carried him back to the front porch of our quarters. I went under the barracks with Cranns and there we found four sticks of nitro-glycerine just under the flooring where the men slept. There was, of course, a great deal of excitement all over the town and when the Frenchmen came they wanted this man summarily hanged. This, of course, I refused to do. The hombre was in pretty bad shape for I had hit him hard. We had with us a marine named Mitchell, who afterwards became sergeant and who had had some experience in surgical work. He took charge of the prisoner and patched him up very nicely. When the man first recovered consciousness he cried, "I have blown up twenty gringoes! I have blown up twenty gringoes!" repeating it with great gusto, but when he saw that he was surrounded by Americans and not natives, he changed his tune, crying out that he was a poor man from the mountains and that "they" had made him do this terrible thing. He was a remarkable specimen physically; tawny in color, lithe as a panther and beautifully muscled. We sent him down the next day to the "TENNESSEE" and shortly afterwards Admiral Jouett sent one of his officers up to me to see what I wanted done with him, as the French in Aspinwall were bent on hanging him. As I honestly believed, after investigation, that he had been forced to make the attempt to blow up the bar-



racks by the threats of agitators, I suggested that he be held a while and then turned loose. It so happened that this was a very happy solution, for after a short stay aboard ship he became quite an enthusiastic supporter of Uncle Sam and a valuable asset to our intelligence department.

"Towards the latter part of April the situation in Panama was such as to cause a concentration of most of the forces there. It was followed by a show-down, after Manse Goodrell ran Aizpuru out of the Cabilda, which resulted in the restoration of orderly government and in a few weeks we were all ordered home. As the rainy season was fast developing its full measure of discomfort, we were all glad to clear out."

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### IN MEMORIAM

By CAPTAIN W. A. WORTON, U.S.M.C.

**M**AY 30, 1928, found the Third Brigade, United States Marines, serving in China and the thoughts of all turned to those comrades of ours who have served their country in the past and have now passed on; those of us who are serving here in Tientsin, North China, not only had heart pangs for our comrades, who lie in Arlington, or other spots in the United States, in France, or the Philippines, but particularly remembered the men who served in the Boxer Rebellion of 1900 for they seemed to be with us on that day.

One thought of General Waller and his gallant band of Marines, of Colonel Liscum and the Famous Ninth, of Captain Davis, of Captain Reilly of Reilly's Battery, of the British Admiral Seymour and of the courageous little group of Legation Guards who so bravely defended their country folk against the hordes of savages. One could almost picture our General Waller looking over the Marines who twenty-eight years later are now here in China on a similar mission and I am sure he must have said "Well done, I am proud of you."

It was therefore most fitting that we Marines of 1928 should take it upon ourselves to do honor to men who have nobly worn the uniform and who have died for their country, corps and regiment.

Lying at Canton Road Cemetery, British Concession, Tientsin, one reads the following inscriptions:

Lionel Arthur Edward Ollivant,  
Captain, Royal Fusiliers,  
Attached to First China Regiment.  
Died July 13, 1900.

"Killed in action at Tientsin while gallantly  
attempting to carry arms to hard pressed  
American Troops."

Corporal Daniel Wetherall, U. S. Marines.  
"Killed in action, 1900."



At the Japanese Park there has been erected a monument to the memory of Colonel Liscum, Ninth Infantry.

One can also see the graves of old Marines and Seamen who served in Chinese waters long before the time most of us were born; for instance:

Corporal Davis Lindsay, U. S. Marines,  
U. S. S. ASHUELOT,  
Died December 29, 1881.

Yoeman Allan Menzies, U. S. Navy,  
U. S. S. ASHUELOT,  
Died December 29, 1881.

Seaman Thomas Ellens, U. S. Navy,  
U. S. S. PALOS,  
Died January 20, 1875.

The Brigade proudly placed wreaths on all of the above graves and also the British Cenatoph, the Italian, French, and American Monuments, and it is hoped that in future years when Marines are in this vicinity that they will remember these loyal men who have died in the service of their country.

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## COMBAT REPORTS OF OPERATIONS IN NICARAGUA.

DIVISION OF OPERATIONS AND TRAINING, HEADQUARTERS,  
U. S. MARINE CORPS

### FOREWORD:

THE history of the Marine Corps is replete with operations of its expeditionary forces in tropical countries. Usually these operations are reported in general terms only with the intimate details absent from the picture. This type of combat, which might well be called "bush warfare" is the one which has been most frequently encountered by marine personnel in the past, and yet is still unknown to many officers, either through a failure to be a participant with some expeditionary force, or through a lack of any available reports which might be studied. Many of the contact reports of the expeditionary forces in Haiti and San Domingo have disappeared in the dead files at these Headquarters and thus the lessons of the past have become lost to posterity. Therefore, with a view of keeping these programs alive and available for future reference and study, the contact reports from Nicaragua are to be published in the Marine Corps Gazette. It is the intention of the Marine Corps Gazette to publish in chronological order articles containing patrol reports from the Second Brigade in Nicaragua in order that marine officers may gain some information relative to "bush warfare." In addition to being very instructive it is believed that these reports will be very interesting reading.

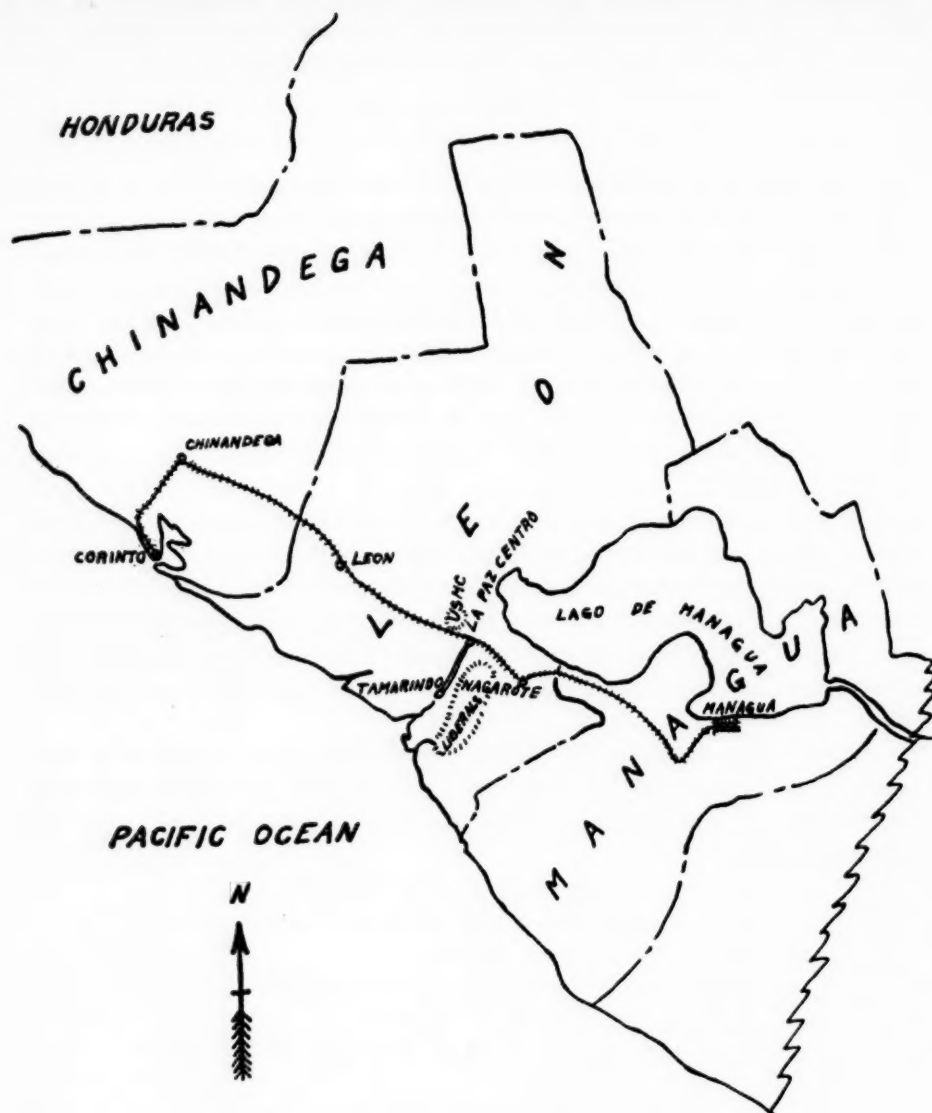
These reports are at present in their original phraseology as received at these Headquarters and articles and comments in explanation thereof are invited by the Gazette. It is desired that articles be submitted which treat of any of the suggested topics:

- The use of Infantry Weapons in "Bush Warfare"
- Reconnaissance and security in "Bush Warfare"
- Intelligence in "Bush Warfare"
- Transportation and supplies in "Bush Warfare"
- Communications in "Bush Warfare"
- The use of air-craft in "Bush Warfare"

### REPORT NO. 1—LA PAZ CENTRO

The first of these reports, given below, describes the action at La Paz Centro on 16 May, 1927. The general situation at that time was as follows: (See map).

The Corinto-Managua railroad line was being kept open by the United States Forces ashore in Nicaragua, by means of detachments encamped along this line at strategic points. A local force of government (conservative) police was in La Paz Centro for police protection. Rumors had been received that a force of about 350 guerrillas was in the hills in the vicinity of Tamarindo, just south of La Paz Centro. Captain R. B. Buchanan, Second Lieutenant C. J. Chappell and eighty-three enlisted marines as part of the naval landing forces (U.S.S.



FLORIDA and U.S.S. ARKANSAS) were encamped on the north side of the railroad opposite the town of La Paz Centro. The U. S. Navy had a radio station here, having erected two tall masts for the antenna. About 14 May, these masts were dismantled and the radio station moved from this vicinity. About this time one platoon of Captain Buchanan's force was sent to Nagarote for station and duty; this left an enlisted strength of about forty-five men at La Paz Centro. It is believed that the guerrillas observing the departure of the radio detachment and the platoon to Nagarote and the absence of the antenna masts concluded that no United States forces were now guarding this town of La Paz

Centro. Accordingly at about 12:55 A. M. on 16 May, 1927, the guerrillas attacked La Paz Centro. Captain Buchanan and his detachment immediately entered the town to protect the lives and property of peaceful citizens therein and to prevent any hostilities taking place in this neutral zone. Second Lieutenant C. J. Chappell's report of this engagement is given verbatim below:

(See sketch).

MARINE DETACHMENT  
LA PAZ CENTRO, NICARAGUA,  
18 MAY, 1927.

From: Second Lieutenant C. J. Chappell, U.S.M.C.,  
To: Commanding Officer, Landing Forces,  
Medical University, Leon, Nicaragua.  
Via: Commanding Officer, Leon Detachment.  
Subject: Report in detail of engagement at La Paz Centro.

1. At about 0055 16 May, 1927, shots were heard in the town of La Paz Centro. Immediately "Call to arms" was sounded in the camp and one platoon, under the command of Captain R. B. Buchanan, U.S.M.C. and 2nd Lieutenant C. J. Chappell, U.S.M.C., second in command, left camp to investigate. Firing was in the general direction of camp and it was necessary for the men to keep low in order not to be hit.

2. A guard of eight men from the Company Headquarters was left in camp under 1st Sergeant Dennis W. Green, U.S.M.C.

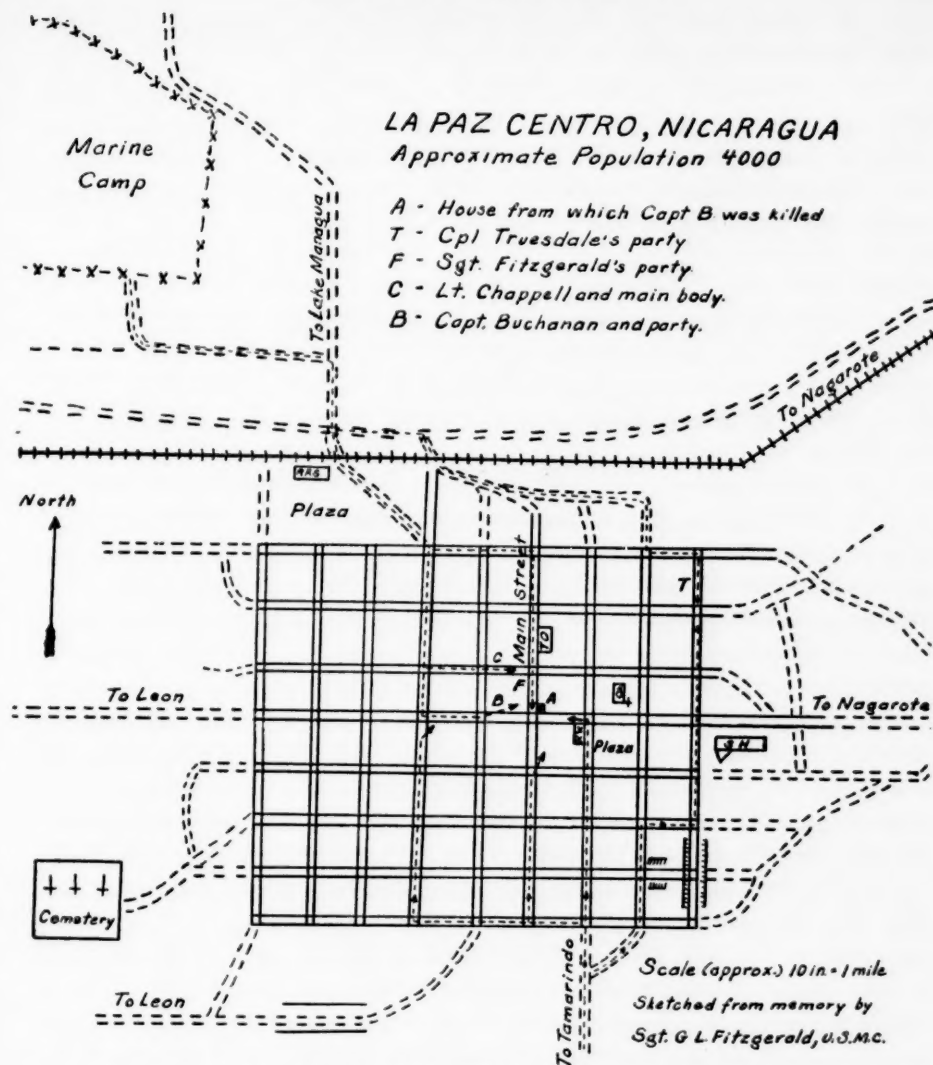
3. Captain Buchanan entered the town with his command in patrol formation. One patrol consisting of one squad, under Corporal Donald L. Truesdale, covered the eastern area of town. Sergeant Glendell L. Fitzgerald with the following men, Privates First Class Herman Keith, Carl J. Klopp, Harvey C. Thieling and Private Marvin A. Jackson, covered the main street. A point consisting of Corporal Gavins Strickland, Privates First Class Claude W. Ash, William F. Simon, Jr., Privates Charles W. Joulilian, Roy Barrett, Wilson B. Green and Severin Roche, preceded the remaining two squads, covering the area of the streets north of the main street. Captain Buchanan was with Corporal Strickland at the head of the point. I was with the remaining two squads, following at about fifty yards.

4. Captain Buchanan, on hearing firing off to his left, swung in this direction in order to flank them. After advancing for about a block and a half the point was fired on and forced to take cover. The point then moved forward about twenty-five yards, joining Sergeant Fitzgerald's patrol. I was ordered to move the remaining two squads on line and to the left of where the point was located. Private Marvin A. Jackson in attempting to secure a better position was fired upon by a band of guerrillas located in a house and was mortally wounded. He died at about 0420. Corporal Anthony J. Rausch in attempting to join Sergeant Fitzgerald's patrol, which had advanced to this point on the

main street and were engaged in combat with a number of guerrillas located in houses and behind buildings, was fired upon and struck in the chest and arm. Private First Class Joseph H. Downs in moving forward with Corporal Rausch was fired on, the bullet striking his rifle and causing part of the butt plate from his rifle to be driven into his side, this injury did not prove serious. Captain Buchanan, attempting to take up a better position, also across the street, where Sergeant Fitzgerald's patrol was in position, was fired upon from a window and fatally wounded, dying shortly afterwards. Sergeant Fitzgerald had been directing the fire of his men on this house when the Captain was hit and in a short while Privates First Class Keith, Thieling and Klopp were able to enter and clear out the remaining guerrillas located there. As soon as this was done Sergeant Fitzgerald and Corporal Strickland carried the Captain into the house and the men inside administered first aid treatment. During the entire time a heavy fire had been coming from three directions, located in various houses and from a machine gun to the left of the patrol. The remaining two squads moved up into position on the left of where the point had taken cover. Corporal Rausch, Privates First Class Simons and Downs, Privates Roche and Norman V. Jones, took a position where the point was located with Sergeant Fitzgerald's patrol and assisted in clearing out this area. The remaining men in these two squads were located on the left of the patrol and covered the houses and area to their front, routing the remaining guerrillas located there. Corporal Strickland, Privates Colin H. Campbell, Wallace T. Anderson, Joullin and Green, crossed the street and entered the yard in rear of the house the Captain was located in and cleared out the guerrillas located there. Sergeant Charlie Ryerson and I, on hearing that the Captain had been wounded attempted to reach him but due to heavy fire were unable to reach the house where he was located. After about fifteen minutes, at which time the fire had ceased enough to allow us to advance without being hit, we reached the Captain. Upon reaching the house we found that Captain Buchanan had received first aid treatment but was in a very critical condition and practically unable to talk. We also learned of our other casualties and accompanied by Corporal Rausch, who had already been wounded, made our way to the post office, located about one block from the scene of the fighting. I informed Captain Woodward, by telephone, what had taken place and requested medical aid as soon as possible. Then returning to Captain Buchanan's aid we found that he had died about 0230. Privates First Class Keith, Klopp and Thieling were with the Captain at the time of his death. Up to the time of his death the Captain was continually offering words of encouragement to his men and inquiring as to how they were faring outside of the building.

5. Due to the fact that it was very dark and not knowing the exact location of the guerrilla forces we were forced to hold a position deployed along the main street, continuing a heavy barrage on the houses occupied by the opposing forces until they retreated from the city. At about 0300 the guerrillas ceased firing and retreated from the city. Due to the fact that the guerrillas were leaving in small bands we did not attempt to follow them but were reorganized and carried our





casualties to the railroad station for medical aid, leaving a patrol of ten men in the city until daylight. At daybreak the town was thoroughly patrolled, checking up on the dead, wounded and any remaining armed forces.

6. Fourteen guerrillas, some of who had red bands on their hat, are known to have been killed in this engagement. It is assumed, from reports received that morning from the natives of this city, that a number killed and wounded were carried away by the retreating guerrillas. We took a small group of prisoners but they were released on being identified as conservative soldiers by the Commandant.

7. In addition to Captain Buchanan, killed in action, Private Marvin A. Jackson was shot through the brain and side and died at about 0420. Corporal Anthony J. Rausch was wounded in the right side of his chest and in the right

arm and Private First Class William F. Simon, Jr., was wounded in the right hand, the index finger being completely shot away.

8. Lieutenant D. O. Bowan, (MC), U. S. Navy, and two hospital corpsmen arrived on "gasolina" at 0420 to give medical aid and after attending to the bodies of Captain Buchanan and Private Jackson returned to Leon with the two wounded men, leaving La Paz Centro at 0510. The bodies of Captain Buchanan and Private Jackson were sent to Leon on the noon train.

C. J. CHAPPELL.

REPORT OF SERGEANT GLENDELL L. FITZGERALD, U.S.M.C.

IN RE

THE ENGAGEMENT AT LA PAZ CENTRO, NICARAGUA, ON THE  
MORNING OF MAY 16, 1927.

At about 1:05 A. M., on the morning of May 16, 1927, "Call to Arms" was sounded. Shots were coming in the general direction of the Camp and it was necessary for the men to keep as low as possible to avoid being struck. The platoon was formed under command of Captain Buchanan with Second Lieutenant Chappell, second in command. I was detailed with one squad of men to proceed to the scene of battle acting as a point. Upon reaching the far side of the plaza opposite the railroad station and about three hundred yards from the Camp, I was overtaken by Captain Buchanan. He split my squad into two patrols of four men each, taking command of one and I took the other. He ordered me to proceed two blocks to the left of him and then swing to the right, covering the main street of the town. After we had advanced about three blocks up the main street we encountered a group of about seventy-five natives, who, at first, were thought to be Conservative soldiers. Upon being challenged they answered the challenge with a volley of shots, immediately retreating into houses and a canteen. We got down and returned the fire, advancing to the next block where we would be able to secure cover from the protruding sidewalks and a number of railroad ties which had previously been placed as a breastworks by the police of the town. Captain Buchanan had advanced to two blocks on the right of my patrol, followed by the main body of two squads under command of Lieutenant Chappell. Corporal Truesdale, with one squad, was ordered to cover the area, two blocks to the left and in rear of my patrol. Upon hearing shots in the direction of my patrol, Captain Buchanan swung his patrol to the left in an attempt to join me.

Private Jackson, a member of my patrol, was struck and went down attempting to secure a better position across the street. Jackson was dragged to a place where he would be safe from further shots. Upon examining his wounds I found that he had been hit several times, possibly by machine gun bullets.

Captain Buchanan's patrol reached my assistance and while attempting to cross the street Captain Buchanan was struck and went down, the shots coming

from the window of a saloon. Upon observing this, I, with Privates Keith, Klopp and Thieling, managed to rid the saloon of guerrillas, killing seven. Captain Buchanan and Private Jackson were then removed to this saloon and Privates Keith and Thieling were ordered to do what they could to relieve their wounds, there being no hospital corpsman available.

By this time several men from the main body, which had taken position to the left and in rear of my patrol, came to the assistance of my patrol. In attempting to do this Corporal Rausch and Private Simons were hit and wounded; Rausch being struck in the arm and chest and Simons in the hand. Even though wounded these two men continued firing throughout the engagement. Private Downs was also wounded from a bullet which struck the butt of his rifle and caused fragments to penetrate his right side. These were not of a serious nature.

Lieutenant Chappell and Sergeant Ryerson made several attempts to reach Captain Buchanan to determine the extent of his wounds but they were unable to reach him for some time due to heavy fire. The guerrillas had concentrated during the battle at points one block to the left of my patrol; one block up the main street from my patrol; and also to the right of my patrol, and were firing from the windows and doors of the building. They started retreating from the town at about 3:35 A. M., and by 4:00 A. M., we were able to reorganize. Lieutenant Chappell in the meantime had been able to reach my patrol and had then notified Headquarters, Leon, of the engagement by telephone. As soon as dawn came, the dead and wounded were removed to the railroad station for further transfer to Leon. A canvass of the town was made to determine the casualties and to rid the town of any further guerrillas that might still be lurking about. Fourteen guerrillas are known to have been killed and it is thought that at least fifty or sixty were wounded. The total number of guerrillas that participated in this engagement was estimated at three hundred and fifty. Captain Buchanan died from wounds at about 2:30 A. M. and Private Jackson died from wounds at about 4:20 A. M.

The following men deserve special mention for their conduct during the engagement: Corporals Rausch and Strickland; Privates Keith, Thieling, Klopp, Jones, Downs, Simons, Barrett and Roache. These men showed great courage and bravery throughout the entire engagement.

This statement is submitted from memory of the engagement at La Paz Centro, Nicaragua, on the morning of May 16, 1927.

LENDELL L. FITZGERALD.



**ANNUAL REPORT OF AIRCRAFT SQUADRONS, SECOND  
BRIGADE, U. S. MARINE CORPS, JULY 1, 1927,  
TO JUNE 20, 1928**

By MAJOR ROSS E. ROWELL, U. S. M. C., Commanding

1. In view of the prospective relief of the undersigned from command of this organization prior to the end of the fiscal year, when the annual report is due for submission, this report is submitted as of this date. An addenda containing the usual statistical data as of 30 June, 1928, will complete the requirements.

2. *MILITARY SITUATIONS:* Throughout the entire period covered by this report this organization has been actively engaged in operations against hostile outlaws in Nicaragua. These operations have been conducted at an average greater than one hundred miles from the base airdrome, over a rough, wild and most difficult area and under flying conditions generally unfavorable. Due to the nature of the campaign, the character of the terrain and the prevailing weather, the operations carried out have been of the most hazardous sort. The enemy driven to hiding in small groups in remote mountain jungles, marching by night and wearing no uniform, other than a colored hat band, has made the problem increasingly difficult.

*MISSION AND POLICY:* The air service rendered to this Brigade had been more diversified and probably of a relative importance unprecedented in military operations. The general character of this service has been three fold, viz; the functions of observation aviation, of ground attack aviation and another which may be referred to as air transport service. Thus the mission has been to furnish the ground troops with observation flights, to provide the Brigade with an air transport service and to carry out independent air operations. The policy has been to carry out aggressively the plans and doctrine of the Brigade Commander, keeping in close touch and conforming with care to the detailed plans of the Area Commanders and always giving the closest attention to the security and welfare of the non-combatant, native population. Although the latter has permitted the escape of many hostile groups, it has been persisted in throughout. The greatest co-operation has always existed between the regiments and the Air Squadrons and the results have been highly satisfactory. The trust and consideration enjoyed at the hands of the Brigade and Area Commanders has resulted in a splendid esprit among the officers and men of the air units.

*FLYING FIELDS:* An entirely new airdrome has been constructed and occupied. The principal building and part of the ground is owned by a local charitable society and the remainder of the ground is rented. The field provides runways into the prevailing winds, the main runway being about 900 yards in length with good approaches. The main building houses the officers mess, headquarters, operations, communications, photography, sick-bay, post exchange, recreation, engine shop, machine shop, fabric shop, quartermaster, and barracks



for 100 men. Several lesser activities are also provided with shelter in this building. One hangar 70 ft., by 120 ft., an erection shop 60 ft., by 60 ft., two supply store houses and a garage have been erected. A guard house 20 ft., by 20 ft., was also built. Electric current for power and emergency lighting is provided by a 25 KW generator. City power is used for lighting. The water supply is provided by two wells equipped with gasoline pumps and an improvised system made with gasoline drums and suitable piping. This system has not been adequate to the requirements of the organization during the dry season due to the insufficient capacity of the wells. Sewage disposal is provided by cess pools. Open storage is used for gasoline. About 60 men are housed in tents. Other than this no canvas is used. While several facilities are still lacking, it may be said that the airdrome is a modern and well equipped air base. All-weather fields suitable for the largest planes exist at Managua, Ocotal, Esteli, Apali, Jalapa, and Puerto Cabezas. Jinotega has been on the transport schedule, but some trouble is being experienced there now due to soft ground. Fields for observation planes also exist at Somotillo, El Sauce, Leon, Quilali, Limay, Condega and Jugalpa. Planes can land, in an emergency at Corinto, Somoto, Telpaneca and Granada. It is possible to construct landing fields at many other places, which will likely be done as the need for them develops. With the construction of these fields and the greatly increased distribution of Marine garrisons, the hazards of aircraft operations have been greatly reduced.

*INFANTRY LIAISON:* Infantry liaison flights, although generally combined with courier and reconnaissance missions, have occupied the greatest proportion of the flying hours. The guerilla warfare developed into a series of patrol operations conducted by small columns that penetrated far into the rough, heavily forested mountains and remote jungles of the back country. The enormous difficulties of campaigning in this area are beyond description and must be experienced to be appreciated. Native mules and burros perish on the trails, wounded men can not be transported and fire in combat is opened at an average range of only fifty feet. Under these circumstances, troop commanders have depended almost entirely upon air liaison not only to control, to maintain contact with and to receive daily reports from these patrols, but to furnish them with medical and other emergency supplies and to provide them with the only combat support possible. The air liaison planes on such missions operate in pairs. Each plane is equipped with two machine guns and ordinarily carries six bombs. The observers carry field message books, message drop sticks and a message pick-up line. The planes also carry the mail, reports of the previous days air mission and any emergency supplies to be dropped. All pilots and observers keep a chronological record of the flight. The ground patrols are equipped with distinguishing panels, pyrotechnics, signal panels and message pick-up gear. The air patrol proceeds to the area of operations, makes contact with the patrols, communicating by panels, dropped messages, pyrotechnics and message pick-ups. It informs the patrols of any military information, the location and movements of other patrols, conducts a reconnaissance and then pro-



ceeds to the headquarters of the organization, where the patrol leader reports the days events to the commander. Frequently it is necessary to return to the patrols a second time. When the mission is completed the air patrol returns to the home airdrome where a written report of the mission is immediately submitted to the Brigade Commander, and copies are supplied by air to all parties concerned, including the patrols themselves, on the following day's flight.

The detailed methods used have continued to be in general as reported in my last annual report. The distinguishing panels have been amplified to provide distinctive panels down to and including companies, separate garrisons and individual patrols. The hand line has been substituted for the reel in making message pick-ups. The air-ground panel code has been amplified and the efficiency of ground troops in operating panel and message pick-up stations has greatly increased. Liaison missions in general have been entirely successful, although it has occasionally been impossible to locate small columns marching in dense woods. Experiments are being conducted with pyrotechnics to correct this difficulty. The list of vitally important things that have been accomplished on these missions is too long to include in this report. It suffices to state that all troop commanders regard the air participation as routine but an important part of every ground operation of any consequence.

**VISUAL RECONNAISSANCE:** This form of reconnaissance has continued to be the chief source of air intelligence. No more difficult problem could be given the aviation observer than one involving the determination of the strength, movements and location of an enemy who is not uniformed, who is without a permanent base of any sort, who uses every known ruse to conceal himself, who seeks cover in the most remote, wooded wilderness, and frequently mingles with people who are at least neutral. This is a fair picture of the situation as it has developed at present.

At the beginning of the fiscal year the outlaw groups were located within an area controlled by them, they had permanent camps and hangouts, constructed earthworks and gave fight when the planes approached. During this period aerial reconnaissance was very successful and our air operations were carried out along lines described in the last annual report. However, since the Chipote bombardment the outlaw tactics with reference to our aircraft have changed entirely. Since that engagement their numbers have been greatly reduced. (They move almost entirely at hours when the planes cannot reach them.) They camouflage their camps and stables and confine their operations to terrain offering the best cover from aerial observation and never fire on the planes unless they find themselves discovered and attacked.

As soon as this outlaw doctrine was learned, the air patrols adopted a much bolder method of operating. We now seldom use more than two planes on a mission, reconnaissance is conducted at the lowest possible altitudes, suspicious places are approached from behind hills or mountains, the planes gliding in with throttled engines. Pilots fly around houses at altitudes that

permit the observers to look into windows and doors. Bursts of gun fire and occasionally bombs are employed near especially suspicious localities to attempt to draw hostile fire. The outlaws have been especially drilled and trained to take concealment from airplanes. Small groups frequently hide their arms and feign innocence. Some groups are provided with women and children who show themselves boldly while the men remain under cover, secure in the knowledge that the women will not be attacked. These are examples of some of the means used to attempt to deceive aerial observers. However, the observers have gained greatly in skill and experience and, in spite of all the ruses adopted by the outlaw groups, a good observer can usually state positively that any locality reconnoitered is either free from outlaws, contains outlaws, or is suspicious. The latter term is employed to indicate a place that shows signs of containing outlaws but cannot be reported as being outlaw beyond doubt.

The smallest signs are utilized in determining the character of any locality, such as, the proportion of men to women, the amount of washing in evidence, the number and kind of domestic animals observed, the appearance of yards and trails, the actions and general bearing of the people seen, etc.

There are usually a number of small signs about a place where hostile groups are hiding that combine to give it a suspicious atmosphere which is readily detected by a keen observer. It is very important to distinguish between ignorant persons who run from airplanes through natural fright and those who have good reason for taking cover. Signs that indicate the enemy in one locality may be entirely innocent and natural in another. Air reports are always compared with local information and ground intelligence reports which usually enable them to be properly evaluated. Negative information is frequently as valuable as the positive.

Information obtained on reconnaissance flights is distributed in the same manner as described for liaison missions with which they are frequently combined. There is no substitute for air reconnaissance as the great distances covered and the speed of the airplane places it in a class of its own. There are certain types of information that can only be obtained on the ground, but altogether air reconnaissance has become a military necessity and has proved its worth in the operations of this Brigade.

**PHOTOGRAPHY:** Due to a series of unfortunate circumstances aerial photography, during the past year, has not been made use of to the full extent of its possible military value. Throughout most of the year, in the areas of operations, heavy layers of cumulus clouds occur daily. This interferes seriously with mosaic map work. For some time no photographic plane was available due to a crash. On two other occasions break downs held up work. During another period there was a shortage of pilots. In spite of all these occurrences considerable photography of real value was done. Obliques have been made of practically all points of military interest, mosaic strips were made of two or three localities of special interest to troop commanders and a considerable number of sketches and similar things have been reproduced. The opportunity is open

to do a great deal of valuable work in the way of preparing an accurate military map of Nicaragua. Photography is of undisputed military worth. Its greatest limitation is the high ceiling required to economically map a mountainous area where the percentage of suitable photographic days is small.

**AIR TRANSPORT:** Air transportation has been of immeasurable value in the operations of this Brigade. At the beginning, the transportation of supplies and personnel was limited to such service as could be afforded by utilizing the observation planes for this purpose. Many transportation flights of the greatest value were made by these planes. However, the practice was not desirable for several reasons. The observation planes were diverted from their legitimate duties. The carrying of freight in dual control planes involves unnecessary hazard. The planes are not economical for the purpose and their capacity was insufficient to supply the needs.

In view of these facts, a Fokker transport was requested and received. The great usefulness of this airplane was so obvious that additional ships were immediately requisitioned. At present four of these transports are in operation and two more are expected shortly. The list of serious emergencies that have been met by these airplanes is too long to include in this report. Entire garrisons in the most remote localities depend wholly upon the transports for supply, an entire regimental headquarters was transported to the front, minor troop movements are effected, the sick and wounded are evacuated, casual officers and enlisted men are carried, the mail is delivered and emergency articles and materials of every conceivable nature are delivered with the greatest speed and safety.

It may be said that the zone of operations of this Brigade, and consequently its military efficiency, has been greatly broadened and increased due to this service alone. There is not a military situation on record where the air transport service has had such a valuable and important part. Although the transports have only been operating during the latter part of the period covered by this report, it is worthy of note to record that the amount of material transported amounts to approximately 900,000 lbs., and that the number of passengers transported by air assumes the surprising total of one thousand five hundred. All of this has been accomplished without the slightest accident.

**COMBAT:** It has been the lot of this organization to be the first one in military history to use aircraft in organized warfare against ground troops. Considerable argument as to the practicability of aircraft in ground attack has prevailed and the methods to be used in the tactical application of planes to this form of attack have existed only in theory. Under these conditions the responsibility of developing a tactical doctrine has been a grave one.

The Ocotul fight was the first important engagement and continues to stand as the most spectacular one of the campaign. On that occasion the small Marine and Guardia garrison, barricaded in two houses near the center of the town, was besieged by Sandino's forces numbering some six hundred. This very serious situation was discovered by an air patrol. An organized attack by five planes, using machine guns and fragmentation bombs, was made on the besieging

force. The action lasted only forty-five minutes but met with the greatest success. Not only were the outlaws driven from the field with severe casualties and the siege immediately raised, but their forces were shattered and their morale destroyed. They never returned to the vicinity of Ocotál.

Several months later Sandino succeeded in reorganizing a force, largely augmented by recruits from neighboring countries. He intrenched himself and organized a very strong position on a distant mountain of large dimensions known as Chipote. About a thousand outlaws intrenched themselves in a very strong position. Insufficient ground troops were available to undertake the assault of this mountain. Four airplanes, unsupported by any other force, attacked the outlaw position using fragmentation bombs, demolition bombs, machine guns and W. P. hand grenades. The planes encountered heavy rifle and machine gun fire and a barrage of sky rockets, but the enemy was completely routed. The casualties inflicted are not known, but the strong-hold was promptly abandoned and a large proportion of the outlaws are known to have deserted.

The loss of this much vaunted stronghold was a severe blow to the prestige of Sandino. Since that action he has never occupied a position of any sort. About two months later an air patrol discovered Sandino's columns in a wooded ravine near a place called Murra. Four successive attacks were made on him in one day and there is no doubt but that severe casualties were again inflicted. Following this fight the outlaws under Sandino left Nueva Segovia and went far into the interior region of Prinzapolca.

These three engagements are the only ones where our forces have been able to strike the main force of Sandino in an offensive action and they have all been in the nature of independent air operations. In all three fights the planes were struck repeatedly by hostile fire but no plane was brought down, no pilot was hit and only one observer was wounded.

Another event worthy of note was the relief of Captain Livingston's column at Quilali. The column had been ambushed by overwhelming numbers of outlaws, both senior officers were seriously wounded, considerable casualties had been suffered and the column was heavily encumbered with wounded men and a very large pack train.

The following extracts from a "message pickup" written by the officer who succeeded to command at Quilali, gave a glimpse of the situation. "xxx I am absolutely certain that an evacuation of this place will result in a concentration of enemy forces that will result seriously. xxx I can dig in and hold until a safe passage is assured or other means devised to extricate us from what is a most serious situation. xxx Have six seriously wounded on stretchers. Mules cannot be used because of the nature of the trail. At least three will probably die if transported to San Albino. The result of this (another attack by the enemy) will be disastrous because of the nature of the country and the trails, which preclude the possibility of maneuvering troops or weapons when attacked, and as my march must be conducted in single file with a train strung over a mile or



more of trail. The weakness of this can be pictured. As before stated I will evacuate tomorrow, January 3rd, in accordance with your instructions if no modification is received in the meantime, but I most urgently request that planes cover me every minute of the time I am on the march. As before stated, I am absolutely certain that I will meet most determined opposition. A full concentration of planes, with a thorough searching of all trails and a thorough bombing of Chipote before I leave, is most *urgently* recommended. I cannot too urgently stress the fact that a concentration against me must be prevented—This is urgent. xxx If humanly possible, I recommend that a Corsair land here to evacuate the wounded. xxx An immediate reply, this date, is requested.”

Under almost impossible conditions a plane landed in Quilali, carried in a relief commander, 1400 lbs. of provisions and medical supplies and brought out eighteen wounded men, making ten flights in all. The pilot received a Medal of Honor in recognition of this accomplishment. Following this, a continuous air escort was maintained and the column was extracted from its difficult situation without a single hostile shot being fired at it. The column was moved under control of the air escort. Three hostile ambushes were discovered and in each case the enemy was driven off with numerous casualties. This accomplishment must be regarded as rather extraordinary in military annals. The above cited instance is an example of the confidence that our troops have in the efficacy of air support.

Early in February, following the abandonment of Chipote by the outlaw forces, the undersigned leading a fully armed air patrol, discovered Sandino and his main column, consisting of a hundred and fifty armed men, in the town of San Rafael del Norte. As the horses were picketed and the bandits gathered in houses about the plaza the opportunity to strike a most effective blow was very great. The planes flew within a few feet of the ground where the pilots and observers looked into the muzzles of the enemy rifles but not a shot was fired. This rare opportunity was passed by because it was the policy of the Commanding General to avoid the possibility of injury to the lives and property of innocent persons by refraining from attacks on towns. It so happened that the radical news writer, Mr. Beals, was present in the act of interviewing Sandino at the very moment the planes arrived. At a later date I met Mr. Beals and urged that he include this incident, in which he was spared the danger of losing his life among the list of “atrocities” he was known to be seeking for publication. However, he found it convenient to omit this incident from the published account of his interview. This is only one of numerous cases where outlaws have been permitted to escape in the interest of an ultra-humane doctrine.

The enemy, with outnumbering forces, will not attack our troops in the presence of planes and if planes arrive during such an attack, it ceases immediately. A small ground patrol was sent to assist Lieutenant Thomas when his plane crashed on Sapotillal Ridge. Later this patrol was found by the planes to be practically in a state of siege. It had been attacked by greatly superior



forces. Provisions and water were dropped to the Marines. They laid out panels indicating that the enemy was concealed in the thick underbrush where they could be seen by neither the ground nor air patrols. It was impossible for the patrol to get its animals to a nearby stream for watering. The ground patrol laid out panels indicating the direction and range of the enemy and requesting an air attack. The planes bombed and strafed the area indicated and the situation was relieved.

This was the first known case of an air attack being directed by ground troops. Since that time it has happened again on several occasions. Our air-ground liaison code provides the necessary panel signals for meeting such a situation. On a number of occasions planes have been employed to drop propaganda circulars to the bandits. A number of occasions could be cited where the planes have brought relief when it was sorely needed and not obtainable by any other means. The list is too long for inclusion in this report. Likewise, the list of enemy engagements is too large to record in this communication. The liaison and reconnaissance patrols fly fully armed with guns and bombs and are always ready to give combat. The majority of our contacts with the enemy have been meeting engagements made by such patrols.

It is not practicable in this report to go into the details of the tactics employed in ground attack. Briefly, attacks are conducted in column, or a series of columns of not more than three ships in each. The method in general is to cover the approach with the fixed gun, depending upon the fragmentation bomb for fire effect and to use the flexible gun on the recovery from the dive. Dive bombing is used exclusively. The tactical employment of planes in ground attack varies widely in differing situations. No set rules are applicable.

During the period covered by this report these squadrons have had contact with the enemy on eighty four (84) separate occasions. About one-third of these were merely brushes and of very minor importance. The planes have been struck by hostile fire fifty-nine (59) times during the period covered by this report and twenty-three (23) times previously, the total being eighty-two (82). No airplane has been brought down in action, although one was forced to retire and make a landing on a friendly flying field, due to a bullet punctured gasoline tank. The only air casualty suffered was one commissioned observer wounded in the foot in the Murra action. It must be said, however, and wholly without disparagement, that the planes have been hit so many times, almost in every part of the fuselage and wings, and the fliers have had so many hair-breadth escapes that we have benefited by a rather rare good fortune in the matter of casualties.

Lieutenant Thomas and Sergeant Dowdell crashed on Sapotillal Ridge, no doubt due to engine trouble, and they were both killed in a fight with bandits on the ground. Captain Byrd, pilot, with Sergeant Frankfurter, observer, collided with a large turkey buzzard at Esteli while on a practice flight. A wing collapsed at a low altitude and both were killed in the resulting crash.

About three hundred bombs and thirty thousand rounds of ammunition have

✓ been expended in action. It is practically certain that a minimum of one hundred casualties have been inflicted on the enemy by aircraft and it is believed that the actual number is considerably in excess of that figure. The enemy has been completely defeated in every engagement. He no longer will fire upon planes unless discovered and attacked. He does not occupy villages, he never intrenches himself nor fortifies a position, he marches only at night, he confines his operations to remote jungle regions and the feature of his tactical doctrine is the avoidance of contact with aircraft. It may be said from a tactical point of view that the Air Squadrons of this Brigade have not only proved to be a valuable support to our troops in action, but have formed a powerful, mobile reserve for either the support of combat troops or for independent missions.

**ORDERS AND REPORTS:** Very few written field orders have been issued within the organization. Usually flights are ordered out on combat missions when emergencies arise and the lack of time precludes written orders. Whenever an action is planned in advance a field order should be issued if possible. It is important to issue written orders when combat operations in co-operation with ground troops are planned. In issuing Brigade and Regimental field orders it has been the practice to insert the following paragraph relative to the air service: "The Aircraft Squadrons, Second Brigade, will provide the necessary air reconnaissance, liaison and combat support." The air officer in command studies the order, confers with the ground troop commander and then proceeds to supply the necessary air service, basing his daily operations orders on the developments of the situation as it progresses from day to day. It is my opinion that this method has proved highly successful. Particular attention is invited to this practice because it is somewhat different from the policies in effect in the Army and the Navy where frequent complaints are heard from air officers of orders from the higher commands, too great in detail.

The air headquarters is on the distribution list for all intelligence, reports of troop movements and enemy information. Important information is forwarded immediately by telephone from the message center and that of lesser importance is delivered by the scheduled motorcycle trips. The air commander, with a full knowledge of the doctrine and orders in effect, keeps the closest touch with the daily intelligence and, after reading the reports of the day's air work, is ready to issue his orders for the succeeding day. Ordinarily the operations orders are posted on a blackboard at 8:00 p. m., on the preceding evening. The board gives the numbers of the planes, names of pilots and observers, the armament to be carried, the hour and minute to take off and a brief statement of the mission assigned to each flight. The pilots, observers, line chiefs, crew chiefs and armament men visit the operations office during the evening and are able to see at a glance what duties are assigned to each. Files of information are kept in the operations office and all pilots and observers are required to keep fully informed on the situation at all times. A written report covering in detail every air mission is immediately rendered, with copies to all concerned. Preliminary verbal reports are made whenever anything of im-

portance occurs. The interest that is taken in air mission reports by the entire command is so great, that it has been found desirable to mimeograph them for distribution to all field posts, outposts and marching columns. A separate and complete log of all engagements is kept.

3. **PERSONNEL:** The hard labor involved in constructing an entirely new airdrome, the difficulties of moving the organization and at the same time carrying on the most intensive active operations, involving flights on Saturdays, Sundays and holidays, performed under the most trying conditions of tropical heat, wind and dust, have combined to make a task that was next to insuperable. In spite of all the hardships of incessant labor and personal discomfort the morale of the Squadrons has continued to be of the highest order and the discipline has been excellent. The fine flight discipline, good judgment and willingness to give battle displayed by the pilots and observers has been most noteworthy. The undersigned has made it a point to participate actively in all operations and to lead the more important and hazardous missions. This is considered worthy of note because I believe that, to a large degree, the spirit of loyalty prevailing in an air organization depends upon the willingness of the leader to share in these things.

When new pilots join, regardless of their skill or experience, they are given careful training and indoctrination. This usually occupies about two weeks' time in cases of trained pilots. Pilots who are not fully trained are a great handicap to an organization on active duty. The enlisted pilots and observers in these squadrons have been highly successful. I am of the opinion that enlisted pilots up to 50% can be successfully employed in any air unit. Experienced officer pilots should always be assigned to lead missions. It is detrimental to have a greater number of officer pilots present than can be kept well employed. A number of enlisted observers have done very good work.

Since rendering the last report, a number of decorations have been awarded in the other organizations that participated in the activities here incident to the revolution, the armistice and the disarmament of the revolutionary forces. Although repeatedly under fire no awards were made in this organization. However, no recommendations were made in the belief that the military situation did not warrant such recognition. During the present year numerous acts of bravery and gallantry in action have occurred. The undersigned has made it a point to restrict all recommendations for decorations to occasions where something of real military value was accomplished. A number of recommendations coming within this class have been submitted. At the present writing one medal of honor and two distinguished flying crosses have been awarded. All others have either been reduced to letters of commendation, or are still pending. Lacking the inspiration that comes from the patriotic fervor of the populace in a great war, it is believed that those who risk their all in deeds of valor in this kind of a campaign merit the greatest consideration in the matter of suitable recognition.

This organization has been practically self-supporting as to personnel. A

small group of native workmen has been employed on rough labor. Recently rumors were heard of an attempt to be made by Sandinista sympathizers to destroy the planes in a night raid. It was found advisable to station an additional guard of sixteen men from a line organization to strengthen our guard. The ground defense of airdromes will necessarily be a function of a ground organization.

4. **TECHNICAL:** (Engineering)—The engineering officer is now an observer, whereas his predecessors were all pilots. This section has benefited materially by the change, as an observer is able to devote much more time to ground duties than a pilot. This section is now well equipped and organized to carry out locally all the overhaul and repair work required. This section has also carried out the construction program including the erection of two large hangars, and operates the plumbing, lighting, power and pumping systems.

(Aircraft). The DH type of airplanes was discarded in December and Vought "Corsairs" and Curtiss "Falcons" substituted. This change effected a complete modernization of the squadrons. Maintenance, repair and overhaul problems have been greatly reduced. It was thought in the beginning that it was a poor policy to provide a squadron with two different types of observation planes. In principle this is true, but it so happened that each of the two types furnished had distinct advantages which the other lacks. Thus it has been possible to take advantage of the best qualities of both types, and frequently this has afforded a happy solution of flight problems. No comparison of the relative qualities of these planes will be attempted in this report. It is, however, desired to remark that steel fuselages are more satisfactory than those built of duralumin. The "dural" type is difficult to repair and is more vulnerable to gun fire. The advent of brakes on airplanes has been hailed with joy by all pilots. They are of great assistance, particularly in cross-wind landings. The new planes of both types arrived with tire equipment that was under-sized for our needs. Six-inch tires have been placed on the Corsairs and eight-inch on the Falcons. These sizes are giving splendid satisfaction. All planes that may be exposed to gun fire should have at least two fuel tanks with separate lines. The omission of wing skids on the new ships has caused some regret.

The Wasp engines in these ships have proved a wonderful success. They are easy and economical to maintain, give 300 hours service without overhaul and are very reliable. On the majority of missions performed the lives of the personnel depend wholly upon the functioning of the engine over considerable periods of time. All pilots and observers have the utmost confidence in this engine.

The Fokker transports have given excellent service and appear to be standing up well under the trying weather conditions of the tropics. Their greatest limitation is the long run required to get off with a full load. It is suggested that while the performance of the ship is very good, it would be greatly improved if it had a little more power.

The tail section, where it carries the tail skid assembly, should be



strengthened and considerable trouble has been had due to frequent breakages in the frame of the left engine nacelles. However, all considered, these transports have established a splendid service record in Nicaragua.

(COMMUNICATIONS).—This section operating crystal controlled, high frequency sets has transmitted the majority of the traffic between the Brigade and outside stations. It also handles the schedules between the East and West Coasts of Nicaragua. This section also operates and maintains communication with radio equipped planes whenever the mission requires. The character of the operations has not demanded much use of the aircraft radio sets. This section is still a firm believer in the crystal controlled aircraft radio set operating on 3470 kilocycles. We also believe that this would prove to be an excellent wave length for the portable ground sets used by troops in the field. Ground troops and aircraft have much in common when light weight radio sets are under consideration. The power source is the only important difference.

(PHOTOGRAPHY).—This section is now fairly well outfitted. The importance of adding stereoscopes to the standard equipment is again urged. Without this valuable adjunct the full advantage of the military information contained in aerial photographs is not obtainable. Some photographic material of unsuitable quality continues to be received. The purchase of cheap photographic material is the worst form of economy.

(ARMAMENT).—Armament sections are habitually steeped in difficulties and engrossed with weighty problems. This organization is not an exception to the rule but, altogether, most of our troubles have been successfully ironed out. Many small but perplexing problems arose in connection with the armament installation on the new ships. This section is entitled to a great deal of credit for the efficient manner in which the solutions have been found. The wing gun installations have proved highly satisfactory. The elimination of synchronizers has been a boon to both pilots and armament men. The fixed gun installations in the Corsairs are more satisfactory than those in the Falcons. It was necessary to discontinue the use of the new boat-tailed ammunition in the fixed guns on account of numerous jams caused by the bullets pulling loose from the cartridge cases. The release handles supplied for wing-tip flares make the best release handles for bomb racks. I wish to renew my recommendation of last year that 50 lb., demolition bombs be retained for standard issue and that a satisfactory 25 lb., fragmentation bomb be developed. The moral effect of the 50 lb. bombs used in the Chipote fight was profound.

(TRANSPORTATION).—The addition of one heavy and two light trucks to this section completes it as an adequate transportation unit for the increased organization. The Fordson tractor has proved a most valuable asset.

(PARACHUTES).—The policy of airing and refolding parachutes on schedule, but without drop testing has been continued. The parachutes are standing up well in this climate.

(AEROLOGY).—Daily weather reports and forecasts are prepared and published. The statistical data that is being recorded by this section is of



particular value and importance. This is the first time in history that scientific meteorological observations have been carried out in Central America. The work is being splendidly done by a very efficient enlisted aerologist. He recently established a record in making upper air soundings.

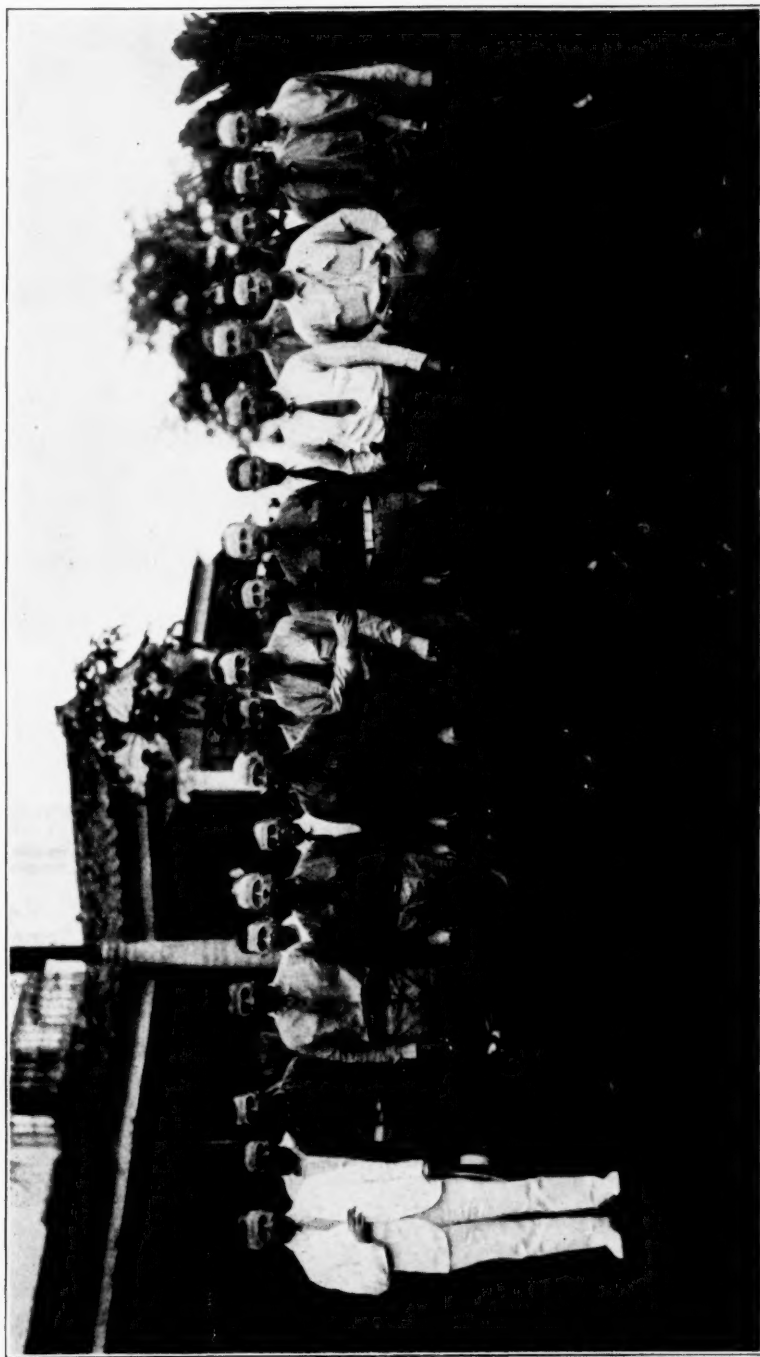
(SUPPLY).—Although operating at a very great distance from all sources of supply, this section has been able to meet every need of the organization. Storerooms have now been obtained and ample stocks laid in. Gasoline and oil are now supplied automatically via commercial vessels. Practically all other supplies come via naval transports. The best means of solving supply problems is to obtain the services of a foresighted and conscientious supply officer.

5. *EAST COAST DETACHMENT*: When it became necessary to combat outlaw activities in the East Coast Area, there was an immediate demand for air service in that section. The terrain of the East Coast is characterized by dense jungles, tropical forests, deep rivers, large lagoons and extensive swamps. The percentage of dangerous flying days due to treacherous weather conditions is high. It was believed that planes of the amphibian type were essential to conduct safe and successful air missions in that country. Four Loening amphibians, three officers and twenty-seven men were supplied and based on Puerto Cabezas. This Detachment has rendered and still is rendering most valuable services in connection with the East Coast operations. The air missions performed there are similar to those carried out on this Coast. Several harrowing experiences undergone by the pilots of that Detachment have more than justified the wisdom of employing planes of the amphibian type in that country. On a recent flight the leader's plane was twice forced down by sudden tropical storms and the escort plane was "lost" in the jungles for three days. Both finally returned safely, whereas had they been flying land planes it is probable that the loss of both of the ships and crews would have occurred.

6. *CONCLUSION*: This report is not a treatise on the employment of air craft in war. It is only intended to convey a sketchy picture of our aerial operations under the peculiar and trying conditions of the guerilla campaign against the outlaw groups led by Augustino Sandino. Many of the lessons learned are doubtless applicable to major warfare and possibly some may be misleading.

Many phases of the operations, particularly the tactics of aircraft in ground attack, were practically without precedent. This pioneering has been a matter of considerable concern and grave responsibility.

During the past twelve months the planes of these Squadrons have met the enemy in conflict time and again. On many occasions effective attacks have been made and, on three separate occasions, shattering blows have been dealt to his main force. The pilots and observers have displayed aggressiveness, and skill at all times. With planes perforated by hostile rifle and machine gun fire, parts of the aircraft shot away, they have fought with conspicuous daring and tenacious courage. They have never lost a plane in action, never suffered a fatal casualty and never failed to route the enemy. There can be no



*Officers of Aviation Squadrons, Second Brigade, U. S. M. C.*

READING LEFT TO RIGHT: Mr. Dodd (civilian), Lt. J. C. Harmon, 1st Lt. F. H. Lamson-Scribner, Lt. F. J. Cushman, Lt. J. D. Swartwout, Lt. DeW. T. Hunter, Capt. R. H. Archibald, Capt. F. E. Pierce, Lt. F. D. Weir, Major R. E. Rowell, Lt. H. D. Boyden, Lt. C. W. Henkle, Capt. J. B. Neill, Ch. Mar. Gun. M. Wodarczyk, Lt. G. C. Thomas, Lt. W. C. Lemly, Civilian (name not known), Lt. W. L. McKittrick, and Lt. C. H. McCullough.



*Sandino, leader of the Nicaraguan outlaws (in center).*



*Group of Sandino's followers.*



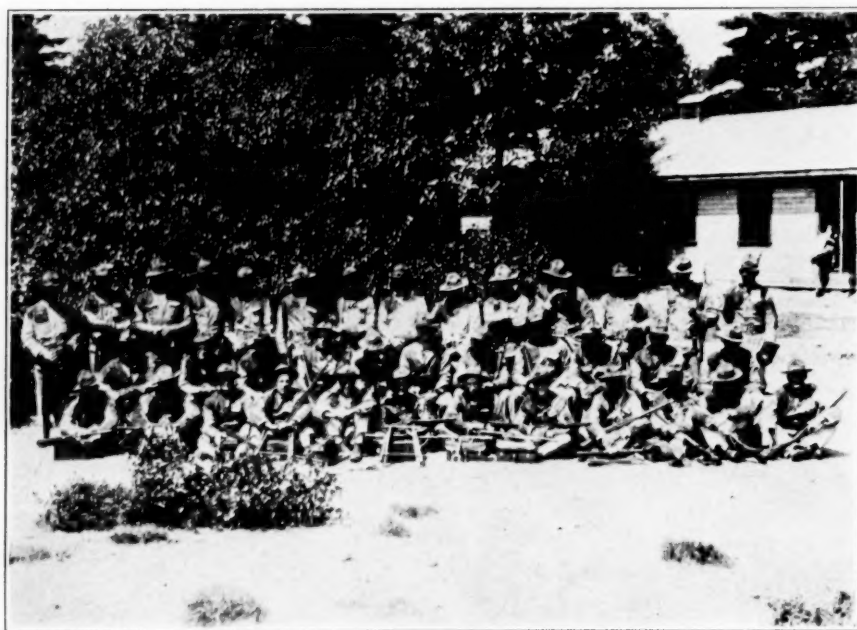
*Outlaw group. "Explorando el campo."*



*Nicaraguan outlaws with Lewis gun.*



*Marines of the Third Brigade in Tientsin, China.*



*Marine Corps Rifle Team at Wakefield.*



doubt but that the morale, movements and dispositions of the enemy have been influenced to a marked degree by our air activities.

There has never been an operation of any importance carried out by our troops with which the airplanes have not been intimately associated. Valuable and important information has been obtained, messages of the greatest urgency have been picked up and brought in from advanced columns, commanders and troops have been kept in liaison, provisions and medical stores have been dropped to columns in distress, the lives of wounded men have been saved by their rescue with planes and combat support has been given on occasions when it was sorely needed. Cigarettes and other articles have been regularly dropped to our patrols and the daily presence of our planes has been an important factor in keeping up the morale of our far-flung columns.

In the matter of air transport great quantities of provisions, supplies, arms, ammunition, medical and morale stores, and articles of every description have been carried. The sick and wounded have been evacuated, minor troop movements effected and large numbers of casual passengers transported. Approximately a half a million dollars in cash has been carried, most of it dropped to outlying detachments, without the loss of a single penny. This work assumes the surprising proportions of nearly a million pounds of freight and fifteen hundred persons transported without loss or accident. This has naturally operated to facilitate the conduct of the campaign as well as to establish a new precedent in military operations.

I believe that it can be definitely stated, without fear of contradiction in this Brigade, that it has been demonstrated that aviation, as an integral part of the military organization, is an asset of a value considerably greater than was anticipated by our troop commanders, that it has proved itself capable of conducting independent operations (from protected bases), that the experience gained by the aviators has been invaluable and that our ground officers have learned to evaluate the air service in a way that no other opportunity could have afforded.

In closing, I desire to express the deep gratitude that I feel toward the Commanding General, Brigadier General Feland, whose confidence, trust and sympathetic appreciation have inspired the splendid morale that has enabled us to carry on. I also appreciate highly the friendly spirit of cooperation and great consideration that we have always enjoyed at the hands of the Commanding Officers of the Fifth and Eleventh Regiments who have been our comrades in arms. The Major General Commandant, the Chief of the Bureau of Aeronautics and the Officer in Charge of Aviation have made these operations possible, as they have been responsible for supplying so generously the necessary personnel, material and financial support.

7. It is suggested that this report be referred to the Commanding Officers of the Fifth and Eleventh Regiments, inviting their criticism or comment.

## INFANTRY-AIR COMMUNICATION

By CAPTAIN FRANCIS E. PIERCE, U. S. Marine Corps

**I**NFANTRY air liaison is one of the most important duties assigned an aviation unit on active field duty. It may be defined as any means employed in communication between ground troops and supporting aircraft. While the subject is related to aerial reconnaissance, as generally understood, it should not be confused with it.

There are two general means of communicating with aircraft while in flight, viz: radio telegraphy and visual signals. Circumstances determine the means used and a competent observer is fully qualified to use either of these two general methods.

Before proceeding to a discussion of these methods, which are comparatively simple, it might be well to mention a few subjects which should be closely studied and thoroughly understood by the officer or person who will be responsible for the ground-to-plane part of this communication. These are:

1. Recognition of the types of aircraft used for communication and observation purposes, with such characteristics of these planes as their speed, angle of climb, turning radius, cruising radius and any possible distinguishing marks.
2. Limitations of aerial observations including the effect of altitude, terrain, weather conditions and a consideration of the blind angles caused by the structures of the plane.
3. Accurate observation of the effect of aerial bombs and aerial gun-fire. This is essential since infantry troops operating in thickly wooded or mountainous country frequently control aerial attacks by use of radio telegraphy or visual signals to the attacking plane.

### RADIO-TELEGRAPHY

For liaison with ground troops, scouting and observation planes of the Marine Corps (F8C-Falcon and C2U-Corsair) are, as a rule, equipped with the Navy spotting sets, type SE 1375 B. These have a combined transmitter and receiver in one case and use a wind driven generator as a source of power. The reliable range is about fifty miles. The complete installation weighs about 110 pounds. No provision for radio-telephony is made.

A larger and more powerful set, the SE 1385, is used in the transport planes (TA1 and TA2—Fokker). This transmitter has a reliable range of about 250 to 300 miles, but the weight (160 pounds) makes this type of set suitable only for large aircraft. No provision is made for radio-telephony.

In addition to these two standard low frequency aircraft radio sets, there has been developed a high frequency radio transmitting and receiving set which is extremely light of weight and has a range of more than double that of the SE 1375 sets. These sets are not in production as yet but, it is hoped, will become available in the near future.

Ground troops are, as a rule, when on expeditionary service, equipped with the Army type SCR 130 or SCR 127 ground radio sets. The range to aircraft

of these sets will vary from 20 to 50 miles, depending upon location and other factors.

Airplanes, when on radio liaison missions, habitually check out with the radio station at the home airdrome before proceeding with their mission. The plane flies in a circle about a mile or two in diameter with the home airdrome as center and tests both the transmitter and receiver by exchanging reports with the ground. When the observer in the airplane is satisfied that his set is functioning properly, the report "ALL OK" is exchanged and the plane departs on its mission. The airdrome station then reports the departure of the plane to the station of destination, giving the operating data necessary to enable the ground destination station to pick up the signals from the airplane without delay. Aircraft equipped with type SE 1375 B sets normally transmit on a frequency of 550 kilocycles and are equipped to receive signals between 1000 and 450 kilocycles. Type SCR 127 and SCR 130 ground sets function best near the latter frequency.

It must be borne in mind by ground troops operating with aircraft that the motor noise, wind blast and ignition disturbances on the airplane in flight greatly interfere with reception of signals. Care and patience must be exercised if two-way communication is to be a success. The airplane in flight uses a trailing wire from 150 to 300 feet in length when operating and therefore cannot fly low without first reeling in the antenna. The limiting factor of gasoline consumption must also be considered and the communication should be brief and to the point so as not to cause unnecessary delay.

When radio communication is established with the plane in flight, the aircraft will normally first report its position and destination and then listen for such dispatches as may be intended for it. Messages from the ground should be ready for transmittal without delay. As the plane will normally be heard for a few minutes before two-way communication is established, this time can be used to prepare and group all messages for transmittal. If possible, the ground radio station should be located within easy communicating distance of the Command Post.

Naval procedure has been adopted as the standard for radio equipped aircraft of the Marine Corps and tactical signals should be used wherever possible if their use will shorten the dispatch.

#### VISUAL SIGNALS

For visual signalling the ground troops normally use panel signals, consisting of designating panels and panel code strips of white or orange colored cloth 18 inches by 96 inches in size employing a two-letter code. Aircraft use the Very pistol with red or green stars, dropped messages, engine signals, arm signals from the pilot or observer, and movements of the airplane for communication with the ground.

The Geographical Supplement to the panel code consists of the names of towns using a numeral code. When the numeral is painted on the designating panel, the signal means that the detachments is from that town. When it is used with the two letter code, the reference is to the town indicated by the numeral.

In practice each active unit of command is given a panel designating signal, consisting of either a square, a triangle, a circle, a semi-circle or a star. To afford a sufficient number of designating panel signals these are each modified by one, two or three panel strips and also by letters and numerals. The designating panels are made of white or orange cloth eight feet across the largest dimension. Block letters or numerals at least three feet high may be painted thereon with black paint. Panel strips used in conjunction with designating panels are four feet by eighteen inches.

The designating panel of the command is always laid out upon the approach of aircraft. Panel signal code groups formed by the panel strips are habitually laid to the right of the command designating panel. When a number of code groups are laid out it is best to separate them by spacers formed by panel strips folded eight by twelve inches.

The panel section, in the case of a company, should consist of a non-commissioned officer and four privates, all thoroughly familiar with the panel code and the proper manner of laying the letters and numerals forming the code groups. Frequent drills should be held to insure proficiency and accuracy.

Panel signals should be laid in a clear area well away from trees, houses and other obstructions, so that a clear view may be had from any point thirty degrees above the horizon. The color of panels used will depend upon the nature of the background. Care should be taken to see that there is a contrast.

Upon approach of an aircraft, the designating panel should be promptly laid out with such code groups as are desired. The airplane will acknowledge by Very pistol (white or green), by a series of short zooms, by "blipping" the engine, or by arm signals. When acknowledgment is made, the code groups should be taken up promptly and others laid, if any. If there is no further need of the aircraft, the panel signal "No further need of you" should be laid at once to prevent delay.

#### DROPPED MESSAGES

Messages dropped by aircraft are either attached to standard dropping sticks or placed in weighted message bags. The dropping stick is twelve inches long by one inch in diameter, leaded at the lower end with two ounces of lead or iron. The opposite end carries a white streamer about three feet long. Messages are wrapped on the stick and secured by rubber bands. The message bag is made of cloth and is five by fifteen inches in size, the lower three inches being filled with lead shot or sand and sewed tight. The upper end is secured with cotton tape draw strings. Attached thereto is a white streamer three feet long. The bags are of sufficient size to hold official envelopes and are used for letters and packages that could not be safely secured to the message stick.

All messages, mail, etc., should be dropped as near the designating panel as possible. When valuable mail or money is to be dropped, a preparatory message is usually dropped first so that extra men may be stationed in the vicinity to prevent loss. When messages or packages are dropped by aircraft, the code group "Acknowledge" should be laid out immediately in panel strips as soon as



the messages or packages are retrieved. If the message is lost or for any reason cannot be retrieved, the code group "Message lost—re-drop" should be laid out. The plane will immediately acknowledge by signal and comply or stand by for other communication. If there be no further need of the plane, the panel code group "No further need of you" should be laid.

The panel code strips may be used to indicate the direction and distance of the enemy or any object, by laying out four strips in the form of an arrow followed by numerals and the code for yards or miles as the case may be. They may also be used to indicate the front line and advanced positions by laying them out along the line of front. A scouting party may use panel strips forming the code group meaning "Marine Patrol," when no designating panel is at hand.

In times of emergency when no regular panel or strips are available any white cloth, such as sheets or undershirts, may be used to form the strips.

The intelligent use of the code is of great importance. The code is necessarily short and does not cover all cases. Commanding officers must at times improvise to fill out the meanings. Words may be spelled out and names of towns may also be spelled when they are not included in the Geographical code. When commanding officers expect periodical visits of planes, messages should be framed prior to their arrival so that the planes will not be unnecessarily delayed.

#### MESSAGE PICK-UP

The importance of obtaining written reports, from isolated troops, containing first hand information cannot be overestimated. The method described below has proven highly successful on numerous occasions where reports of great importance have been picked up and forwarded to the higher command within the course of an hour or so, when by any other available means it would have taken days to have accomplished the same object. Due to the fact that there are certain elements of danger connected with the use of the message pick-up both to the ground troops and the crew of the airplane, this method should not be used for the transmission of routine messages that will not suffer from delay. However, when proper fields are available at training centers every opportunity should be taken to familiarize all officers and men with the method and practical means used in executing the pick-up system.

The message pick-up in its present form depends upon the fouling of a weighted line in the hands of the observer in the airplane with a light cord, suspended about twelve feet above the earth at right angles to the line of flight, to which the message is attached.

In practice the observer's hand line consists of thirty feet of light woven sash cord with a lead weight of about one and a half pounds securely fastened to the end. To the other end of the line is secured five feet of signal halliard or similar rope knotted at intervals of one foot to afford hand holds for the observer. This line is lowered over the side of the plane in flight, the knotted portion being held in the hand. The pilot then flies up wind at a sufficiently low altitude so that the lead weight fouls the message cord. Both lines are then hauled into the cockpit and the message secured.



The message line is suspended between two poles about fourteen feet high, placed about forty feet apart at right angles to the prevailing wind. Near the top of each pole, a headless spike is driven, inclining slightly upward. At the top of the pole is secured a small white streamer. The poles are held each by one man and the headless spikes pointed into the wind. The message line is placed over the spikes, the two ends being brought together about one foot above the ground, equidistant between the poles and secured to the small bag containing the message. The message line thus forms an isosceles triangle with the long side upward. The weight of the message bag with its contents will serve to keep the message line taut.

At the base of each pole, extending down wind, should be placed a panel strip, to indicate the location of the poles, as they are difficult to see from the air. The designation panel of the detachment, placed equidistant between the poles and under the message bag, is also an aid for locating the poles. When all is in readiness, the panel code signal "Pick-up Message" is laid out.

The pick-up gear should be laid out in an open space at least two hundred yards long. A hill top, clear of trees and other obstructions, may also be used when a level space is not available.

As stated heretofore, the message pick-up is extremely useful. When proper precautions are taken it is not hazardous but may easily become so if any of the details are slighted. The poles should never be set into the ground. The men who hold them should be instructed to always watch the plane and the hand line, and be prepared to drop the poles if the plane should come too low. The lead weight on the hand line is painted a bright yellow to make it visible in flight.

The message line can be most easily placed over the headless nails if the poles are laid on the ground, tops downwind, with the nails pointing upward. After the line is in place, the poles are both raised to the vertical, care being taken to keep the nails pointing forward to prevent the message line from slipping from its place. If the nails are pointing inward, i. e., toward each other—the message line is likely to slip off before the pick-up is made; and if pointed outward, the line will not slip off readily when pick-up is made, resulting in either breaking the message line or the hand line. The horizontal portion of the message line should not be allowed to sag more than two feet, as it becomes hard to engage if it drops too much below that position.

Spectators should be kept clear of the immediate vicinity of the poles and out of the line of flight, both on account of the danger of being struck and also to afford the pilot necessary visibility.

When a message has been picked up the plane will make the "Acknowledge" signal by any of the accepted methods and drop the message line at the designated panel. The panel signal "Pick-up Message" should be secured immediately after the plane makes a successful pick-up or at any time adjustments have to be made with the pick-up gear.

The methods used in air-ground liaison have been carefully worked out and have stood the test of practical application for over a year in Nicaragua.

## MOTOR TRANSPORTATION FOR EXPEDITIONARY UNITS

By FIRST LIEUTENANT VERNON E. MEGEE, U.S.M.C.

**T**HE recent large expeditions to China and Nicaragua have brought forcibly to the minds of all thinking officers, the growing importance of an efficient and reliable motor transport service. Perhaps the most outstanding lesson taught, has been the inability of our present equipment to function satisfactorily away from a good road system. In both Nicaragua and China good roads are conspicuous by their absence; consequently most of the motor equipment transported to those countries at great trouble and expense has proven entirely unsuitable for service outside the occupied cities.

This situation had been foreseen by the Operations and Training Section at Headquarters long before these expeditions had been contemplated. A board of officers was appointed in 1926 to investigate and test certain new types of vehicles which seemed to offer promise of marked superiority over the existing equipment. This action was taken as a result of observations made during the different maneuvers of the East Coast Expeditionary Force; and as a result of report coming from units operating in Haiti and Santo Domingo.

The Nash Quad trucks which had been in use in those countries since the beginning of the occupation, were in many respects a remarkable vehicle. During the period between 1915 and the end of the World War they remained the last word in 'cross country' transportation. Equipped with four wheel drive, and four wheel steering mechanisms, these trucks maneuvered over trails quite impassable for the ordinary truck. The four cylinder engine with which they were powered was well designed, gave little trouble, and developed ample power for that size truck. The mechanical weakness of this machine lay in the multiplicity of universal joints and differential mechanisms necessary to drive and steer all four wheels. Some of these parts were forever breaking under the strenuous conditions imposed by expeditionary service. The narrow solid tires were not adapted for crossing soft marshy ground, so during the rainy seasons the trucks were more of a liability than an asset.

The present F. W. D. truck, successor to the Quad, was obtained from the Army after the late war. Originally designed for artillery purposes, this truck has proven entirely unsuitable for an expeditionary cargo carrier. While the chassis is an improvement over the Quad, the engine used in the F. W. D. truck is decidedly inferior in performance. Faulty carburetion, causing excessive fuel consumption, being the principal defect in design. This is a very serious fault, especially during cold weather, as the excess of gasoline drawn into the engine is not properly vaporized but enters the combustion chamber in the raw state. This causes an undue amount of carbon to be formed within the cylinders, which in turn is responsible for loss of power and overheating of the engine. The raw gasoline finds its way into the crankcase, diluting the oil and paving the way for burned out bearings. Frequent changes of oil have to be made in order to guard against this damage. As a result of this defect in carburetion the truck uses an excessive

amount of gasoline and oil, compared with other vehicles of like capacity. The body rides high on the chassis, throwing the center of gravity of a bulky load too high for safety. Many accidents have resulted from this fault. The F. W. D. is even more helpless than was the Quad when soft swampy ground must be crossed.

The class "B," or Liberty truck as it is popularly known, has proven quite satisfactory where fair roads are available. It has a greater capacity and a much greater speed than either the Quad or F. W. D. truck. Upkeep of the class "B" is easier and less expensive than is that of the F. W. D., and it has practically the same maneuver-ability. Although this truck is considered superior to any of the other heavy types in use, its use is limited to roads, and is for that reason, of course, just as unsuitable for expeditionary service.

The only trucks we have had in Haiti and Santo Domingo that could be depended upon to get supplies to outlying stations have been the light, fast, pneumatic tired Whites. While these trucks mired down quite often, they could usually be extricated by the crew without undue delay. They were designed for a light load (1500 lbs), which was their chief drawback, and they were prone to upset on mountainous roads. But even these trucks, good as they were, required roads of some kind.

Perhaps the most striking example of the shortcomings of our motor transport was furnished in September, 1923, during the march of the East Coast Expeditionary Force to the Shenandoah Valley. The route of march led west of Quantico over a narrow clay surfaced road through swampy forest lands. The second day out the train was caught in a downpour of rain, which soon rendered the road impassable and piled most of our trucks up in the adjoining ditches. Those that managed to stay on the road were effectively blocked and unable to proceed. The Fifth Regiment had preceded the train and was encamped some five miles ahead of our position. Their rolling kitchens and other supplies were, of course, with the train. With the help of tractors and mule teams the trucks progressed only by inches, the road by nightfall having become a deep quagmire through which we waded with difficulty. Our predicament was serious, but not half so serious as was that of the troops who had to retrace their steps and spend the night pulling trucks out of the mud. As I remember, the last truck did not reach camp until after dark the next day. The rains continued for a week and such progress as the train made was due mostly to the marines and their hand-lines. Had these same marines been required for operations against an enemy the motor transport service would have been paralyzed. That experience was one long nightmare to the officers responsible for the train, and it is hardly likely that anyone who was present will soon forget the hardships caused by the inability of our transport to accompany the troops under such conditions.

This, then, was the problem which confronted the Marine Corps at the time the first board was appointed to test other types of vehicles and make recommendations looking toward a remedy for the situation. The board had scarcely met when the first Nicaraguan draft took away most of its members. A new board

was formed, and plans made for an extensive series of tests to be held on the reservation at Quantico. A few tests had been completed when the trouble in China took most of the troops from Quantico, and the proceedings of the board were again interrupted. Permission was obtained to take all the equipment under test on the expedition; the board to continue the tests as opportunity offered.

The Chinese expedition offered unusual opportunities for observation and comparative tests of the experimental vehicles with the old types with which we were equipped. For instance, the motor equipment of the Tenth Regiment was handled nine times between Quantico and Tientsin. We very soon found that much of our equipment, such as five ton tractors, class "B" trucks, and F. W. D. machine shop trucks, was entirely too heavy to be readily handled by the average Navy transport. Accidents to hoisting gear were quite common, and the problem of stowing these vehicles between decks taxed the ingenuity of all concerned. The ease with which the light experimental tractors and their trailers were handled was indeed a contrast. It is believed that future design and selection of expeditionary equipment should be made with this point in mind. Certainly a machine too heavy to be loaded and unloaded by the smaller ships cannot be considered desirable for overseas service.

We had no occasion to use our heavy trucks outside the city limits of Shanghai and Tientsin. Had such an occasion arisen I doubt very much if we could have depended on going very far over the cart roads of China. These roads were passable only when they were frozen, and of course they only froze in the northern part of the country. The F. W. D. trucks proved unsuitable for even such work as hauling supplies over the city streets, being extremely hard to start during the cold weather, hard to handle in city traffic, and generally unreliable. The class "B" trucks, of which we had only three, and the two Dodge-Grahams with which we were provided were depended upon for most of the hauling. (I am speaking only of the Tenth Regiment—the Brigade Motor Transport Company used F. W. D. trucks because no others were available.) The supply of spare parts for these old trucks was very limited, due to the difficulty experienced in procuring such parts for a machine long since out of production. A major breakdown meant a surveyed truck. On the other hand we had no trouble in procuring locally any parts needed for the Fords and Dodge-Grahams.

The tests of the tractor-trailer equipment proved conclusively that this combination can be depended upon to get supplies over country where no wheeled motor vehicle could possibly go. One tractor can handle two or more loaded trailers over ordinary roads, and can when necessary cast loose part of the load to be returned for later. Fewer motors and fewer drivers being necessary with this equipment, an economy is effected in spare parts and gasoline to be carried. This added to the ease of handling, servicing, and storing the light tractor makes our present truck equipment decidedly obsolete. On improved highways the tractor-trailer can not compete with trucks due to slower speed and the wear and tear imposed by hard surfaced roads. For this service we would retain a fleet of fast pneumatic tired trucks.



The Army has been engaged for some years past in developing a light cross country passenger car to replace the motorcycle sidecar for scouting and reconnaissance work. The Marine Corps borrowed the idea, improved upon it, and just prior to the artillery maneuvers of 1926 brought out a redesigned Ford cross country car that was a considerable improvement over any of its predecessors. This car was delivered to the Tenth Regiment while at Camp Meade, Md., for a thorough test. It was a pronounced success. During these and later tests this car was driven over every conceivable form of terrain, and never failed to come through—save once. An attempt was made to cross the swamp at the mouth of Little Creek in Quantico, which failed due to lack of traction. This, however, was hardly a fair test for any wheeled vehicle.

The board recommended the adoption of this vehicle, with some few modifications, to replace the light passenger cars and motorcycle sidecars now in use. It was found more economical than the motorcycle due to the rapid depreciation of the latter under service conditions. The water cooled engine of the car is superior to the air-cooled motorcycle engine for hard cross country traveling and for slow running behind an infantry column. The solo motorcycle is superior, however, for messenger service, and for the use of truckmasters and others engaged in convoy work where the ability to travel narrow paths is a requisite.

Motorcycles have never been very popular with the military services, due mainly to the lack of skilled personnel to properly service them. The standard machine has an air-cooled motor which develops some eighteen horsepower at a speed of well over three hundred revolutions per minute. Translated into road performance this means that a speed of seventy miles an hour can be attained in a very few seconds. Such power and speed is very apt to be misused by the average marine to whom such a mount is assigned. The motorcycle engine requires more care and attention than the light car; it also requires a special grade of oil which is seldom available on expeditionary service. An unskilled and careless rider, together with improper lubrication, can soon wreck the best machine made. Given the proper care the modern motorcycle is as reliable and durable as a good automobile, but they will not stand up under service conditions. The machines now in use are far more powerful than is necessary for solo work; they are in fact dangerous in the hands of any but an expert rider. Several serious accidents have occurred in the Third Brigade due to the use of these heavy machines in traffic. There is now on the market a medium weight machine, sufficiently fast and powerful for our purpose, having the advantage of greater ease of control; and being more economical to buy and service.

There will always be a place in expeditionary units for a light fast truck for hauling light loads and for ambulance work. The present Whites and obsolete G. M. C. trucks are fast being replaced by the more modern Graham ton and a half chassis. The new trucks come equipped with starter and electric lights and no difficulty need be experienced in operating them in any kind of weather, day or night. To those drivers who have hand cranked cold motors, and who have strained their eyes trying to stay on a road improperly lighted by flickering gas



or kerosene headlights, the new trucks will indeed prove a boon.

For ordinary hauling at posts within the United States, and for such other operations as can be carried on where hard surfaced roads are available, the large capacity cargo truck is the proper equipment. The class "B" truck, of which there is a fair supply available, is entirely satisfactory for this class of work. The F. W. D. trucks remaining on hand can also be worn out in this service. No doubt when this old equipment has all been disposed of, our heavy cargo trucks will be the modern six cylinder pneumatic tired machines capable of passenger car speed.

In order to simplify the maintenance problem we should limit our equipment to the fewest possible types of vehicles. In the past we have had such a variety of machines in use that servicing them properly has been a difficult task. The ideal situation may never be realized due to the difficulty encountered by the Quartermaster in being able to specify the particular make and model when purchases of new equipment are to be made. Every effort should be made however to approach the ideal as nearly as existing laws will permit. Mechanics can be more easily trained to service one make of vehicle in each class, and the amount of spare parts carried together with the labor incident thereto will be greatly reduced by carrying fewer models in stock.

To summarize our discussion, we would require but six types of vehicle to properly equip an expeditionary unit:

- (a) Solo motorcycle of medium weight and power.
- (b) Light cross country car { ambulance bodies on
- (c) Light fast truck { both these chassis
- (d) Heavy cargo truck (limited to good roads).
- (e) Two ton Caterpillar tractor (for artillery guns and for infantry trailers.)
- (f) Cross country trailer (three ton capacity).

The proper training of commissioned and enlisted personnel in the technical details of motor transport is equal in importance to providing proper equipment. An efficient and reliable transportation service presupposes both. We have depended in the past on both the Army Motor Transport School and the hard school of experience. The Army school is good as far as it goes, but the mere fact of graduation therefrom does not make a qualified motor transport officer, nor a skilled enlisted mechanic. The officer or man concerned must like the work and be willing to dig in and acquire the practical experience necessary to qualify in this essential specialty. On the other hand the marine who starts as a shop apprentice is not apt to acquire the theoretical knowledge necessary for the skilled artisan. A combination of school and shop is the quickest way to train mechanics and drivers in their duties. The motor transport officer of each unit could train his own men, provided he had sufficient time. Usually there is such a great amount of work involved in keeping up the obsolete equipment now on hand that the harassed officer must press into service every available man, skilled or otherwise. Under such conditions proper training is impossible, and the new men

must learn their job when and however they can. The quality of repair work turned out suffers from such a system, and the military efficiency of the unit concerned is impaired to that extent.

There are officers and men now in the service who are fully qualified to organize and conduct a mechanical training school, could their services be spared from operating units. Existing orders contemplate such a school at Quantico, yet to my knowledge no such training has ever been made available. It is desirable that the Marine Corps be made as self contained as possible, and the establishment of such a central school would make us independent of the Army system. By turning out a steady stream of graduates to replace the trained men lost by discharge, our motor transport units could be kept up to a much higher standard than has heretofore been possible.

A considerable number of officers have graduated from the Army Motor Transport School; comparatively few have had a regular detail as motor transport officer. It is realized of course that there is only a very limited number of these positions open, and the natural tendency is to keep them filled with the more experienced officers. Yet unless these new graduates are given a chance to acquire some practical experience, their school training is not going to benefit the service to the degree necessary to justify the time and expense involved.

The successful administration of a motor transport unit requires, in addition to the necessary technical knowledge, a keen insight into the minds of the men engaged in this work. This knowledge can only be acquired through experience, no formal school can teach it. The mechanic has a different personality than the line soldier and his thoughts flow in slightly different channels. The officer who cannot sense this difference, and run his outfit accordingly, will meet with only indifferent success as a motor transport officer. The requirements of discipline are just as strict, but it is a discipline of the shop rather than of the drill field, placing the emphasis on results rather than methods. The very nature of the duties performed calls for long hard hours while in the field, and as the officer cannot be everywhere the men must be able to function as individuals—individuals who have the will to keep going as long as work remains to be done. Be it said to the credit of the dirt begrimed marines of our motor transport service; they are of the breed who thrive on adversity and never know when they are licked. Uncouth and unmilitary though they may seem to the parade ground soldier, these men are the backbone of our supply system—deserving in every way of the name marine.

We have struggled along since the war with inadequate and obsolete motor equipment, but better days are in sight ahead. The recent action of the Quartermaster in purchasing and shipping to Nicaragua a number of the tractor-trailer outfits recommended is an indication that rapid progress is being made toward providing our expeditionary troops with motor transportation they can use under the most severe conditions.

## THE 1928 MARINE CORPS RIFLE AND PISTOL TEAMS

By MAJOR JULIAN C. SMITH, U.S.M.C., Team Captain

**T**HE history of the 1928 Marine Corps Rifle and Pistol team is the record of a happy ending after an inauspicious beginning.

The results obtained by the team throughout the season and in the National Matches were undeniably a source of gratification to all concerned. It was the second time in the history of the National Matches that all four events were won by one service team, the Marine Corps Rifle Team of 1921 being the first to make this record, although the Navy Team of 1907 is credited with a "clean sweep" of three events when the National Pistol Team Match was not included in the program.

Due to the number of officers and men on expeditionary duty in Nicaragua and China, it was impossible to gather together for the Divisional and Marine Corps matches the majority of the best shots in the Corps, as had been the practice heretofore. As a result, the scores of the Medal winners, from whom the team squad was selected, were lower than those of previous years.

However, Marine Corps Headquarters succeeded in assembling the best available shots at Quantico, where Major Humphries, Commanding Officer of the Rifle Range at Quantico, and the Team Coach, Chief Marine Gunner C. A. Lloyd, selected and organized the team squad. There were comparatively few men on the squad who had ever participated in National Matches and there were also few officers.

Nevertheless, the whole detachment showed itself thoroughly imbued with the "will to win" and made up in loyalty, enthusiasm and industry what it lacked in experience.

The team squad as finally organized left Quantico for Wakefield, Mass., on June 23, under command of Captain Ashurst, and began its training on the Massachusetts State Range near that city.

The Navy, the Coast Guard, and the Massachusetts National Guard Rifle Teams also conducted their training at Wakefield, this year, marking the entrance of the Coast Guard for the first time as a competitor in the National Matches.

A number of problems, in addition to the lack of experience of the team material, immediately presented themselves. The first and most serious was caused by the inferior quality of the National Match ammunition as compared to that manufactured in 1925, which had been used for the past three years.

Next, the National Match regulations called for the use of one rifle by each competitor over the whole course, precluding the use of one for the short ranges and rapid fire and another for the long ranges. This regulation was not enforced but the Marine Corps team conducted its training with a view to carrying it out. When the announcement was made that it would not apply in the National Matches, no advantage was apparent in using more than one rifle and, as it re-

quired a procedure different from that followed in training, each team member used the same rifle throughout the match.

The third problem was caused by the requirement that the National Match team be chosen from fifteen eligibles who were to be selected by competition and whose names were to be handed to the executive officer of the National Matches upon their arrival at Camp Perry. As this regulation was interpreted, the Team Captain and the Team Coach were included in the 15 eligibles. This meant that the team must practically be selected at Wakefield, as only one additional man was eligible after the ten shooting members and two alternates were chosen.

Additional restrictions this year prohibited the use of elbow holes on the firing lines and limited to four the number of shooting members on the team who had previously participated in a National Match.

The ammunition problem was the most difficult of solution. It soon became obvious that, in any match beyond two hundred yards, any one shooting 1928 ammunition was hopelessly handicapped in competition with 1925 Frankford Arsenal ammunition or that made by the Commercial firms for the matches.

The 1928 ammunition carried the hundred and seventy-two grain boat-tail bullet and, except for one hundred feet less muzzle velocity, was supposed to be identical with the 1925. In practice it was found to have much greater vertical dispersion, to lack the splendid wind bucking qualities of the 1925 ammunition, and, in addition, to give an unusual number of unaccountable wild shots. Many of these were misses at a thousand yards, while at six hundred yards they were usually outside the four ring.

It soon became evident that, while the objective of the team was the National Rifle Match, an objective which was never lost sight of, to compel the National Team to shoot 1928 match ammunition in the New England and N. R. A. Tournament matches at Camp Perry would have the effect of depriving them of any opportunity of winning an individual match, and would either sacrifice our chances of winning any of the N. R. A. team matches or compel us to eliminate the National Team shooters from these matches. The moral effect of this would have been extremely bad and it would have involved either the losing of all the N. R. A. team matches or of depriving our National Team members of the valuable experience to be gained from shooting in these matches.

The team Coach found the solution of the whole problem which now seems simple but which at the time appeared sufficiently difficult to cause all of us sleepless nights.

Shortly before the New England Matches, each man on the team squad was required to sight in and familiarize himself with the eccentricities of two rifles with the 1928 ammunition. The best of these was chosen as his National Match Rifle and was so tagged. The other was known as the "Special Gun." Each man was issued a separate score book for each of his rifles. One week before the New England Matches, the National Match Rifles were put aside and the Special Guns sighted in with 1925 ammunition. This combination of gun and ammunition was used by all in the New England Tournament.

Before leaving for Camp Perry, the last week was devoted to intensive team practice, under conditions simulating as nearly as possible those of the National Match with the National Match Rifle and 1928 ammunition. At this time we felt assured that our training had been conducted in accordance with sound principles as the last scores made at Wakefield were surprisingly high.

At Camp Perry one week was spent in practice, during which both rifles were sighted in on that range.

In all N. R. A. Matches, the team members used the National Match Rifles and 1928 ammunition at 200 yards slow fire and at 200 and 300 yards rapid fire, but were permitted to use the Special guns and 1925 ammunition at the long ranges.

During the training period, team work and co-operation were stressed. As far as practicable, experienced shots were paired with new men. Every effort was made to build up a spirit of co-operation and mutual assistance among the members of the team squad. Members of all pairs spotted for each other at rapid fire and coached each other at the slow fire ranges. It was only after the selection of the National teams that coaching was given the pairs on the line.

This system while designed primarily to build up a spirit of team work gave every shooter experience in doping wind and weather conditions and cultivated the individual initiative and spirit of independence needed to win individual matches.

The National Pistol Match did not cause so much worry as the scores of the leading candidates for the Pistol Team were sufficiently high to insure that, barring bad luck, we had an excellent chance of winning the National Pistol Match. The chief problem was to limit the practice in order to prevent the Pistol Team Squad from going stale, at the same time giving them sufficient work to maintain their interest and have them at the peak of their shooting when the day arrived for the match.

The score, a match record and 51 points ahead of their nearest competitors, is indicative of the fact that the team was at its peak at the crucial moment.





## PROFESSIONAL NOTES

### SERVICE AFLOAT INSTRUCTION OF MARINE OFFICERS

A study was prepared in Operations and Training based on the constructive criticism of a high ranking naval officer to the effect that Marine officers were being sent to sea, not only without prior sea experience but without instruction in gunnery and were under a very severe handicap in consequence. To determine the causes and to provide for a remedy it was necessary to examine our educational and training systems. Officers appointed from civil life and from the ranks appeared to be the only ones involved since it is presumed that graduates of the Naval Academy *are* qualified. Naval Ordnance and Gunnery is no longer taught at the Basic School, Philadelphia, Pa. The subject of Naval Ordnance and Gunnery was eliminated from the curriculum of the Basic School at the time when this subject was removed from the professional examination for promotion from second lieutenant to first lieutenant in 1925; it is however prescribed in the examination from first lieutenant to captain. This precluded newly appointed second lieutenants from obtaining any instruction in this subject prior to their assignment to sea duty.

The proper remedy for this situation therefore was evident, i. e., to replace the subject of Naval Ordnance and Gunnery in the program of instruction at the Basic School. Then having given 2nd lieutenants each a course, they should be required to pass an examination in this subject on becoming eligible for promotion. These two recommendations were approved by the Major General Commandant.

There are a number of company officers who have never attended the Basic School (or the old School of Application) upon being commissioned in the Marine Corps. To qualify these officers for duty afloat, 54 hours instruction in Naval Ordnance and Gunnery is embodied in the Company Officers' Course, Marine Corps Schools, Quantico, Va., In addition to theoretical instruction, such course prescribes for a certain amount of practical instruction with naval secondary armament. We had now seemingly provided for the instruction in Naval Ordnance and Gunnery of (1) all newly appointed officers and (2) all company officers who had not been to the Basic School.

Due to the exigencies of the service, there still remains a group of officers who have not received such training either at the Basic School, the Company Officers' Course, or from previous experience as a junior Marine officer afloat. To reach this class it was necessary that a plan be provided whereby they could be sent to sea with full knowledge of the duties required of a Marine officer afloat. This plan devised was based on the use of our Sea Schools for enlisted men. Enlisted personnel of the Marine Corps available for sea duty are trained at the Sea Schools at Norfolk, Va., and San Diego, Calif. preparatory to being assigned to duty aboard naval vessels. This course of instruction covers a period of four weeks. The necessary naval ordnance is available at these Sea Schools for practical instruction.

The plan proposed and approved by the Major General Commandant to qualify this special group of officers is as follows:

- (a) Prior to assignment of such officers to sea duty, they be ordered to either of the Sea Schools for an intensive course in Naval Ordnance and Gunnery and the duties of a Marine officer afloat.
- (b) The Commanding Officers of the Sea School to be directed to prepare a schedule of instruction for officers assigned to their unit for instruction. The theoretical instruction to follow closely that prescribed at present in Ordnance and Gunnery in the Company Officers' course, Marine Corps Schools. The schedules from both Sea Schools to be closely reconciled by these Headquarters.

#### THE IMPORTANCE OF TANKS IN MARINE CORPS FORCES

The war mission of the U. S. Marine Corps is such that its expeditionary forces should comprise the essential combatant and administrative branches in order that each may be, tactically and administratively, a self contained unit capable of independent action.

Our peace-time forces are composed, chiefly, of infantry with its related auxiliary weapons, and some accompanying artillery. Yet, in order to insure the successful accomplishment of our war mission we must, in time of peace, train a nucleus of each of the combatant arms (cavalry excepted) with a view to rapid and efficient expansion in the event of a national emergency. To do this it is essential that our peace strength be sufficiently large to provide the maximum nucleus for war time expansion, and that such nucleus be well trained in the employment of all the weapons of modern warfare. In this way, and this way only, can we hope to develop a marine fighting force whose accomplishments would be in keeping with its record and traditions of over a century and a half.

As already stated, the Marine Corps is primarily an infantry force. It is therefore incumbent upon us first to develop infantrymen second to none in point of morale, physical development, training, and equipment. Prior to the World War the infantryman was a soldier armed with the rifle only. During and since the war the infantryman has developed into a marching, crawling, fighting arsenal, well versed in the use, care, and employment of the numerous auxiliary weapons essential to close combat. Of these weapons the infantry tank is the one with which the marine is least familiar. The light tank platoon of the East Coast Expeditionary Force was organized at Quantico in March, 1925, but due to the exigencies of the service, it has been disbanded from time to time. It was finally reorganized and assigned to the Third Brigade in China in March, 1927. After eighteen months' service in that country the platoon is now en route to its home station at Quantico, where, upon arrival, and again due to the exigencies of the service, its personnel will be disbanded. The tanks with which this platoon was provided are the Renault, 6-ton, model 1917—the obsolete, war-time product with which the U. S. Infantry has had to struggle for the past ten years.

In view of recent development of a new Light Tank T-1 E-1, designed by

Army Ordnance, it is hoped that conditions in the Corps will soon permit the reorganization of at least one light tank platoon, and that it may eventually be equipped with this new weapon. We can not afford to lose trained men whose experience is so essential in the care, maintenance, and operation of this motorized weapon.

Since the light tank is the type which the Marine Corps would employ in time of major emergencies, we are naturally interested in the latest developments of this weapon.

The Light Tank T-1 E-1 has been produced by a commercial firm in accordance with specifications and design of the Ordnance Department, U. S. Army. Four of the tanks and two light cross-country cargo carriers were completed last June, since which time they have been under service test during the mechanized maneuvers at Fort Leonard Wood. One of the tanks, in a fifty-eight (58) day test at Aberdeen Proving Ground, completed a 2040 mile test off the roads over representative terrain, as a result of which no weaknesses developed requiring any major modifications in design. Minor changes found desirable are to be incorporated in a fifth tank to be contracted for at an early date. This track-laying tank has, under favorable road conditions, attained a maximum speed of twenty (20) miles an hour. Its cross-country speed depends of course upon the condition of the ground and determination of its crew. The tank weighs approximately  $6\frac{1}{2}$  tons; its armor will resist any .30 caliber bullet. Its armament consists of a 37-mm gun and caliber .30 machine gun mounted in the all-around fire turret in such way that both guns are controlled by the gunner from the shoulder, and may be fired alternately without removing his eye from the sight. The crew consists of only two men, gunner and driver.

One of the outstanding features in connection with the design of the new light tank is the production of a basic, all-purpose chassis adapted to mount a tank house or a cargo body for carrying ammunition, gasoline, spare parts, and any other type of special body which may be required in service. The advantages in war production of this type of chassis are numerous.

From the standpoint of overseas operations—that in which the Marine Corps is particularly concerned—it is obvious that many situations may arise in which tanks would be of inestimable value to the infantry in overcoming the resistance offered against the seizure of an advanced base for the Fleet. The adaptability of the tank to such landing operations has not, as yet, been determined, and is a question which will require much time for study, test, and practical experiment; ship-to-shore transportation and landing in the presence of the enemy are problems of most vital importance. Since the Mission of our Expeditionary Forces has to do, mainly with overseas operations, our training of tank units naturally divides itself into three phases:

- (1) The nomenclature, maintenance, care, and operation of material.
- (2) The tactical employment of the tank and its armament singly and in co-operation with other tanks and combat units.
- (3) Transportation—ship-to-shore, and means of landing.

It is obvious that these problems will require a long time for solution. For this reason it is sincerely hoped that the time is not far distant when modern material can be procured and sufficient personnel will be available to warrant the organization of at least two (2) light tank platoons in the Marine Corps.

#### AVIATION IN NICARAGUA

At the present time there are being operated in Nicaragua five OL-8 (Amphibian) planes, and two in reserve, on the East Coast based at Puerto Cabezas. At Managua the following planes are in operation: five three-engine Fokker transports and twelve observation planes. During the last three months these planes have flown on an average of about 275 hours a week, the high week being 304 hours. To give an idea of the value of transport planes, the following data is taken from a report by the Brigade Quartermaster for the month of August:

"Landing Fields are located at the following places:

##### For Fokker Transports

Apali  
Esteli  
Jalapa  
Jinotega  
Ocotal  
Puerto Cabezas

##### For Small Planes only

Condega  
Corinto  
El Sauce  
Juigalpa  
Leon  
Limay  
Somotillo

Drops are regularly made at the following places:

Boaco	San Rafael	Tuma
Dario	San Fernando	Yali
Jicaro	San Francisco Also to patrols in the field."	
Matagalpa	Somoto	
Muy Muy	Telpaneca	
San Albino	Trinidad	

"Drops of supplies have been made to the Coco River Boat Patrol near Telpaneca, and of rations and supplies to the patrols commanded by Captain Edson, Captain Walker, and Lieutenant Ridderhof, which patrols are operating in a practically inaccessible area in northeastern Nueva Segovia. The largest drop was made on August 26, 1928, when 3,076 pounds of subsistence stores were dropped to Captain Edson at Pateca and from which there was a salvage of over eighty per cent.

Four transport planes were in service from August 1st to 28th, 1928. On August 29th transport plane No. 5, flown to Managua by Lieutenant Schilt, was put into regular service and on that day a regular five-plane schedule was inaugurated.

Due to the excessive rains at this season the landing fields are very slow and at times it was necessary to reduce the loads as low as 1,300 pounds per plane for transport No. 1, No. 2 and No. 3, and to 1,600 pounds for transport No. 4 and No. 5. Under normal conditions each plane would carry 300 pounds more cargo.

The following is a classification of the cargo transported by plane from Managua:

Post Exchange supplies.....	38,957 lbs.
Q. M. supplies.....	18,105 "
Medical supplies .....	2,254 "
U. S. Mail (landed) .....	1,906 "
U. S. Mail (dropped).....	2,869 "
Passengers (67) .....	13,400 "
Morale equipment .....	514 "
Guardia Nacional supplies .....	710 "
Bread, fresh .....	3,451 "
Potatoes, fresh .....	6,987 "
Onions, fresh .....	936 "
Other subsistence stores.....	18,804 "
Election supplies (U. S. Army).....	596 "
Gasoline (1,062 gallons).....	7,009 "
Kerosene (104 gallons).....	686 "
Miscellaneous drops .....	11,874 "
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Total .....	129,058 lbs. (64.52 tons)

"Of the 11,874 pounds of miscellaneous drops, the majority was to the patrols in northeastern Nueva Segovia which have been subsisted for more than a month almost entirely in this manner.

Cargo transported from Ocotal to other points, including passengers to Managua, was as follows:

Passengers (237) .....	47,400 lbs.
U. S. Mail .....	1,490 "
Freight (all classes) .....	32,765 "
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Total .....	81,655 lbs. (40.82 tons)

The greatest number of passengers transported in one day was on August 6th, when forty-three were carried. The greatest amount of freight carried in one day was on August 11th, when 8,776 pounds were transported from Managua to Jinotega."

When Aviation first landed in Nicaragua only the home field at Managua, one at Esteli and one at Ocotal were in use. As our forces were sent out into the country, it soon became apparent that it would be impossible to maintain them with the transportation facilities available, and recourse was therefore had to the airplane, and development of the fields mentioned above was the result. For this purpose the Bureau of Aeronautics has expended in the last year \$12,500 and, in addition, \$5,450 for hangar and store-house at Puerto Cabezas, and \$27,000 for hangars at Managua.

When it is considered that one of these transport planes costs approximately \$50,000 and requires 100% spare engines (\$15,000) and 25% spare parts to keep it operating (to say nothing of the fact that it takes three times as much gasoline and oil to operate each transport as it does to operate the ordinary type of plane), it becomes quite evident that air transportation on a large scale



is costly and should not be used exclusively where other means of transportation are available.

The following notes were submitted recently to Marine Corps Headquarters by Major Ross E. Rowell, U. S. M. C., then commanding the Aircraft Squadron, Second Brigade, U. S. M. C., in Nicaragua, in reply to inquiries made by the Chief of Air Service, U. S. Army, relative to aviation operation in Nicaragua:

(a) For a period of ten (10) months the squadron operated from a two-way field with a 550 yard runway. There were no hangars of any sort and the command and shops were under canvas. After that period a new field about 700 yards square was acquired with permanent shelter for the personnel and shops. Hangars are now being erected. The base airdrome is 200 feet above sea level. Various advanced airdromes are from 300 to 3000 feet above sea level.

The squadrons were transported to Nicaragua on Naval Auxiliary vessels. Airplanes were carried on deck with the wings and tail surfaces removed. The wings were lightly crated and the fuselages were fully equipped with armament, etc. Vehicles, wing crates, etc., were also carried on deck. Ammunition, fuel, spares, etc., sufficient for three months operations accompanied the squadrons, as well as the usual camp equipage. The supply was maintained thereafter by Naval Transports and local railway facilities to the base airdrome. No serious difficulties have been encountered in maintaining an adequate supply. This is largely a question of efficiency and forethought on part of the engineering and supply officers. All advanced airdromes are supplied by air entirely. Interior guard duty at the base airdrome is performed by the personnel of the squadrons, using Thompson sub-caliber machine guns for this duty. Advanced airdromes are guarded by the local troops, using automatic weapons properly disposed. Planes in hostile areas land on panel signals only. Ground troops are always in readiness to guard the base airdrome, but the necessity has never arisen.

(b) Originally the squadrons used DH airplanes of the standard Air Corps Type. They were equipped with 110 gallon gasoline tanks, A-3 type bomb racks, with front seat releases, one fixed Browning gun and one Lewis Flexible gun. These planes were replaced later with Vought Corsairs and Curtiss Falcons. The Corsairs are the standard Navy O2U planes and the Falcons are of two types, viz, the standard Air Corps observation type and the ground attack planes, except that both types are powered with the Pratt and Whitney Wasp engines. All of these planes use the standard armament equipment except that bomb sights are dispensed with, bomb rack releases installed in the front cock pits, and the Air Corps type of aerial gun sights installed. All airplanes are equipped and perform the functions of both observation and ground attack aviation. For liaison missions the observers use the standard infantry panel code, augmented to suit local conditions, standards pyrotechnics and the hand line grapnel for picking up messages from the ground. For air

transportation, including the supply of advanced airdromes, ambulance service, transportation of infantry troops, supply of troops, etc., Fokker Tri-Engine transport planes are used. One Leoning amphibian is also available for utility purposes. Approximately 100,000 pounds of freight and two hundred passengers monthly are being carried by air. This includes ammunition, rations, medical supplies, radio equipment, clothing, sick and wounded men casualties, armed infantry troops, etc.

(c) The number of man hours per flying hours, etc., is the same as at operating airdromes in the United States. The minor difficulties encountered are the same as are usually met with on cross country flights in America. The planes must be staked down, control surfaces battened, engines and cockpits covered, precautions taken against the ravages of rain, wind and sun, etc. Wing panels only last about three months when exposed to the tropical weather.

(d) Flights from the base airdrome have been made daily throughout the year with one or two exceptions. During the dry season flights can be made throughout the daylight hours on the western side of the continental divide. During this period there are usually three or four days a month when certain mountain areas cannot be penetrated by airplanes due to low misty clouds and fine rain. During the rainy season there are usually four or five days per month when low clouds and rain block off some of the mountain areas. In the rainy season, middle of May to late October, violent local rain squalls prevail in the afternoons. At such times flying conditions are frequently dangerous and cross-country flying in the afternoons is avoided as much as possible. A ceiling of 4000 feet is necessary to penetrate the mountainous areas. Very little heating trouble has been encountered with water cooled engines, although shutters are removed during the hot season. With new, clean radiators, there should be very little trouble with overheating.

(e) The altitudes flown on reconnaissance missions are governed entirely by the strength and distribution of the enemy forces, the nature of the terrain and the attitude of the enemy toward aircraft. When the enemy is in large force and considerable numbers of machine guns are present airplanes penetrating the hostile area are sometimes forced as high as 4000 feet. Under average conditions such flights are best made at about 1500 feet, although the pilots and observers must be very alert and careful not to fly directly over a large group at that altitude. However, even large groups may be approached to within fairly good reconnaissance distance at an altitude of 1500 feet so long as the planes do not fly over him. When the enemy is in small groups and adopts hiding tactics, air patrols fly at the lowest altitudes possible. Of course, great alertness must be exercised on part of the personnel. Such planes practice erratic movements and "S" turns are continually made. Proper altitudes for ground attack missions cannot be prescribed. They vary widely and are governed by the strength and distribution of the enemy and the terrain. Generally speaking, it is essential to have from 1000 to 1200 feet altitude at

the moment an attack begins in order that the plane may gather the high speed necessary for a safe approach and departure, particularly the latter.

(f) Bombs of the fragmentation type are greatly superior to machine guns against ground troops. A few 50 pound demolition bombs can be used to good advantage as they have a very marked moral effect on ground troops. The free guns can be used effectively to dislodge men in deep trenches or pits. The fixed guns are used primarily to cover bombing approaches, and after the bombing attack has been completed both fixed and free guns are used in "mopping up" operations. W. P. hand grenades were tried out also but the success obtained was mediocre. Horses and mules are frequently killed by fragmentation. It has rarely been possible to check up on casualties inflicted by aircraft. Usually ground troops have not been present during air-ground engagements. Even when ground troops are present the Nicaraguan outlaws nearly always succeed in carrying away their own dead.

(g) Rifle fire is effective against airplanes up to 2500 feet altitude. From 2500 to 3500 feet occasional hits are made on planes. At 4000 feet no hits have been registered and this altitude is considered safe for vertical photography. The planes of this organization average about one hit per plane per engagement. At the present writing 83 hits have been made on the planes by ground fire. Nearly every part of the airplanes has been struck, including wing panels, ailerons, spars struts, flying wires, tires, longerons, stabilizers, elevators, fittings, rudders, gasoline tanks, etc. Only one plane has been forced down by rifle fire and that was due to a punctured gasoline tank. One observer has been wounded in action. Machine guns have been used against the planes. They are considered much more dangerous than rifle fire.

(h) Surprise of ground troops by aircraft is very difficult but is accomplished from time to time. Planes are almost invariably met by rifle and machine gun fire on the first attack. Practically the only times when such is not the case are occasions when the enemy thinks that he is well concealed and refrains from firing.

(i) Airplanes operating against small groups work in pairs, against large groups three planes attack in column, and, if the objective is of considerable size, the planes attack in two or more columns simultaneously. Not more than three planes are usually employed on one target, although at Ocotal five planes were used in one column. Planes attack singly, in columns utilizing high speed, diving approaches and erratic departures. Formations are not used and would rarely be practicable.

(j) The targets are usually dismounted men, although mounted troops and pack trains are sometimes attacked. Dismounted troops are usually encountered in small groups who immediately deploy in all directions and take cover with marked skill. Sometimes they are found in buildings but they seldom remain in such cover when they find that they are discovered.

(k) Air patrols usually find their own objectives, but sometimes, the targets

are located by previous reconnaissance. At Ocotol and Chipote the targets were known in advance. Both situations are certain to occur.

(l) No statistics have been computed relative to the flying time of individuals. The average flying time of an observation pilot is about forty-hours per month. The highest flying time for an observation pilot has been 96 hours in one month. The highest time for a transport pilot has been 124 hours in a single month. Transport pilots frequently exceed 100 flying hours per month. Observation pilots frequently have eight hour flying days.

(m) Distinguishing hostile outlaws from innocent citizens is a most difficult problem. Many outlaw groups doubtless are permitted to escape attack because of doubtful identification. Exceptional skill and continued experience is relied upon to identify hostile groups. The following are some of the signs that are depended upon: Hostile fire, visible arms, number of persons present compared to normal population, proportion of women to men, number of horses and pack animals present, number of cattle seen, actions of individuals in presence of planes, amount of washing observed in area, occasionally earth works for defense or prepared ambushes are found, condition of trails, general appearance of villages and farms, actions of people known to be innocent, ground intelligence reports, character of citizens in the area, etc., etc.

#### EVENTS IN NICARAGUA SINCE JULY 20, 1928

July 25, 1928: Planes came upon outlaw camp on the Poteca River. Outlaws had one machine-gun in action but due to the thick foliage it was ineffective. Outlaw strength was estimated at about one hundred and fifty but their casualties were unknown. Planes were hit five times.

July 29, 1928: Marine patrol was fired upon about six miles south of Ocotol. Outlaw fire was silenced with no casualties to either side.

August 7, 1928: Marine patrol had contact with outlaw band on the Coco River about sixty miles from Bocay. One marine was killed and three wounded. Ten outlaws were killed with several wounded.

August 11, 1928: Marine patrol of fifteen had contact with outlaw group of ten near Potrero with no casualties to either side.

August 13, 1928: Marine patrol fired on boat on Coco River killing four and capturing five with no marine casualties. Another patrol on the Coco River fired on five outlaws but they all escaped.

August 13, 1928: Planes had contact with outlaws south of Yacalwas. The fire was returned and the planes hit four times.

August 14, 1928: Marine patrol had contact with outlaws near Wamblan killing four with no marine casualties.

August 22, 1928: Patrol from Pueblo Nuevo routed a group of outlaws in the vicinity of El Choro.

August 24, 1928: Marine patrol attacked a group of outlaws near Apali with no known casualties.

August 27, 1928: Marine patrol ambushed by an outlaw band of forty northwest of Macuelizo. Two bandits were killed with no marine casualties.



August 30, 1928: Native group of twenty-five vigilantes engaged an outlaw group under Galiano. Outlaws were defeated and retreated with two of their members killed and several wounded. This group of vigilantes was organized at Balsamo to make some effort in resisting the depredations of the outlaws.

September 2, 1928: Marine patrol on the Coco River near Yacalwas had contact with outlaws with the result that the marines' native guide was killed.

September 3, 1928: The above patrol again had contact with outlaws near Yacalwas resulting in the death of one outlaw.

September 10, 1928: Marine patrol had contact with a small group of outlaws near the junction of the Esteli River and the Santa Rosa trail. There were no marine casualties with outlaw casualties unknown.

September 11, 1928: Marine patrol had contact with a small group of outlaws in the La Mesa area with no known casualties.

September 11, 1928: Outlaw group attempted to attack town of Palacaguina, but were driven off with no known casualties.

September 28, 1928: Marine patrol encountered large outlaw band at Zapoli Hill. The outlaws fled with casualties unknown.

September 29, 1928: Planes bombed and strafed an outlaw camp about six miles north of El Rodeo. Outlaw strength was estimated at twenty-five.

October 4, 1928: Marine patrol attacked an outlaw group of forty at Los Robles. The outlaws retreated with casualties unknown.

October 5, 1928: Marine patrol attacked a group of outlaws about seven miles from Jinotega. The fire was not returned and the outlaws escaped with no casualties.

October 6, 1928: Outlaw group ambushed a marine patrol near Santa Teresa. No casualties were reported.

October 6, 1928: Marine patrol had contact with outlaw outpost on Poteca River opposite Arenal Creek.

October 13, 1928: Outlaw group opened fire on a marine patrol near San Gregorio wounding one marine. Outlaws retreated with casualties unknown.

October 15, 1928: Patrol had contact with outlaws southeast of La Corona. One outlaw was killed with no marine casualties.

October 20, 1928: Marine patrol opened fire on outlaw group at Mapaste, San Juan area. Prisoners and correspondence were captured with no casualties to either side.

November 1, 1928: Patrol had contact with small outlaw group northeast of Yali. There were no known casualties.

November 2, 1928: Patrol had contact with group near Telpaneca. There were no marine casualties with one outlaw captured and one killed.

November 4, 1928: The Nicaraguan national election was held resulting in a victory for the Liberal Party. The victorious candidates were General Jose Maria Moncado for president and Doctor Enoc Aguado for vice-president. The defeated Conservative candidates were Adolfo Benard for president and Julio Cardenal for vice-president.



The report of the contact on the Coco River on August 7, 1928 as given in the previous issue of the Gazette was incorrect as to the number of outlaws wounded. There were three wounded and not thirty-seven.

INSPECTION OF THIRD BRIGADE, U.S.M.C., UNITED STATES ASIATIC FLEET  
U. S. S. PITTSBURG, FLAGSHIP

Chefoo, China.

11 June, 1928.

From: The Commander in Chief.

To: The Major General Commandant.

Subject: Inspection of Third Brigade, U. S. Marine Corps.

1. The Commander in Chief inspected the components of the Third Brigade stationed at Tientsin on 1 June, 1928.

2. The forces present were constituted as follows:

ORGANIZATION	OFFICERS	ENLISTED MEN
Brigade Headquarters	8	132
Brigade Special Service Co.	8	102
First Battalion, 10th Regiment	24	489
Fifth Company, Engineers.	5	94
Light Tank Platoon.	2	27
Provisional Military Police Co.	4	71
Sixth Regiment.	78	1648
First Separate Battalion.	6	78
Aircraft Squadrons.	16	145
<b>TOTAL.</b>	<b>151</b>	<b>2786</b>

3. The inspection which began at 7:30 a. m., occupied most of the day and consisted of problems by the various units, inspection of artillery quarters and culminating at 5:45 p. m., with a regimental parade of the Sixth Regiment and review of the Brigade made up of infantry, artillery, special troops and air squadrons.

4. The first problem was the entrucking of a flying column made up of a battalion of infantry, platoon of engineers and a battery of tractorized artillery together with radio equipment and medical personnel. Upon receipt of orders from headquarters to effect plan one, all units of the Brigade concerned rendezvoused and were ready to move this column of seventy-three vehicles with thirty (30) officers and six hundred fifty (650) men, self contained with rations for five days and a fuel radius of 130 miles in thirty minutes. The movement was carried out with sureness, despatch and smoothness unaccompanied by any orders and showed careful and intelligent planning and preparation.

5. The next phase of the inspection was observing an artillery problem where the Battalion took position to support the defence of the Brigade by concentrations and interdictions. The batteries had assumed positions before the inspecting party arrived, but Colonel Lay reported the time from billets to ready as fifty minutes. The command post, batteries and commanders positions were well covered by signal communications, telephone and visual, and

communication with airplane was maintained by radio, panel, and picking up and dropping messages. The positions were well selected and anti-aircraft and machine gun defences established. Covering for the battery not camouflaged was provided. The batteries did no actual firing, but the drill, layout, and hookup were excellent. The material condition of the entire battalion is remarkable, the guns, caissons, trucks and tractors surpassed anything in field artillery the Commander in Chief has ever seen.

6. After this problem the billets and mess hall of the battalion was inspected and the same high state of the fighting echelon was observed here.

7. A demonstration of a portable self contained water purifying truck was next witnessed. This plant pumps water from any stream or pond and renders it palatable at the rate of 3200 gallons every eight hours. The first attempt to operate failed due to a mechanical fault which was corrected and it was then successfully demonstrated. The failure at first to function teaches the lesson that equipment must have painstaking care and overhaul constantly to guard against such accidents. This plant is particularly necessary in such a location as the Brigade is serving where the water supply may be suddenly cut off, and assures in an emergency sufficient drinking water for the entire force. The weight is eleven tons which generally requires dismantling when transferred to or from a ship, but after set up can be operated over metal roads or for several miles around Tientsin.

8. Due to the poor condition of roads in China, the Brigade has evolved an ingenious way to move trucks over soft ground or mud holes by staking down heavy small mesh galvanized wire netting. A two-ton truck was demonstrated over soft ground and demonstrated the success of this method. This necessary equipment should be included in all expeditionary forces.

9. The parade and review in the afternoon was an inspiring sight. Following the parade of the Sixth Regiment, that regiment passed in review in mass formation with fixed bayonets. The marching and alignments were excellent.

10. The passing of the artillery was perfect and the skill of the tractor drivers was shown by the perfect alignment of all guns.

11. After the artillery had passed four divisions of airplanes which had been parked in line facing the reviewing officer popped off their engines simultaneously and following their leader by divisions took the air and after turning passed in review at an elevation of fifty feet. Their spacing and alignment was excellent.

12. The inspection of the Quartermaster, Pay and Adjutant and Inspector's Departments showed a satisfactory condition in those units.

13. Communications function satisfactorily and the Brigade net is well established and operates efficiently. In forces of this size a self contained radio of at least 2 K W power is needed for distant communication with the Commander in Chief. The small units they now have quickly burn out with the traffic they have to handle and require constant repairs and renewals. A 2 K W generator will be supplied.

14. The medical department is efficient and well operated. The small venereal list is a striking example of what may be achieved by intensive care, supervision and education in the use of prophylaxis. Such supervision is especially required in situations where expeditionary forces are in contact with women, a large portion of whom are infected and that state is present in Tientsin and Shanghai. The Brigade hospital is adequate, well organized and administered. The different units have dispensaries all of which are in excellent condition.

15. The Quartermaster Depot which was recently established is centrally located, adequate in size and suitable for Brigade requirements. The different property classes are well arranged for easy and quick issues. This will result in the depot handling certain equipment and supplies which heretofore were carried by troops. The Depot Quartermaster at present is accountable officer for certain troops not of his detachment, but this will probably be adjusted upon the arrival of an additional officer.

16. The aviation force is quartered at Hsin Ho in close proximity to the railroad station and about four miles from the mouth of the river. The same high state of morale and efficiency was found in this force as in the other units of the Brigade. The men are quartered in excellent barracks which were converted from cement storehouses and the mess hall and kitchen is the same type. They were all in excellent police. They have a shop and are able to effect repairs of a minor nature and cover wings. The planes and equipment in use were in excellent condition though certain planes have outlived their usefulness and are being surveyed. The work in the air is striking and numerous trips were taken by members of my staff in both amphibians from the flagship to shore and land planes from Hsin Ho to Tientsin. Aerial patrols within the protocol area are maintained and a high state of instant readiness is maintained. An example of this readiness was demonstrated when an alert plane was in the air and on the tail of a strange plane 3' 25" after report had been made to the executive officer.

17. Through the courtesy of the local Chinese authorities a large tract of land has been set aside for an all around range and the layout is now completed for artillery, stokes mortars, howitzers and rifle practice and also air bombing and machine gun practice.

18. The Commander in Chief was deeply impressed with the attention which had evidently been given to every detail to prepare this Brigade to carry out its delicate and difficult mission. The excellent condition of the accountermments, the guns, the artillery, the motor transport and the whole equipment together with the high spirit of the whole command as shown by the snappy performance of drills and exercises reflects great credit upon General Butler and the officers under his command for having developed such a high state of morale and efficiency.

MARK L. BRISTOL.

## THE MARINE CORPS RESERVE

THE following is quoted from a letter addressed by the Editor of the Gazette to each commanding officer of a Reserve Area:

"The Marine Corps Gazette is desirous of devoting a portion of its space to the publication under appropriate heading of material of particular interest to the Marine Corps Reserve.

"It would be appreciated if you would communicate to the officers of the Reserve within your area a cordial invitation to transmit material in the form of articles, notes, letters of comment or inquiry covering subject matters in which as members of the Reserve they have an interest.

"Such contributions should be addressed to The Editor, Marine Corps Gazette, Headquarters, Marine Corps, Washington, D. C.

"Articles of one page or more in length are paid for at the rate of \$2.00 per page if published.

"This step is taken in the belief that all concerned will benefit through closer relationship of the Reserve to the active Marine Corps which connection we desire to improve.

"Whatever assistance you can lend will have our sincere appreciation.

Sincerely yours,"

Colonel D. D. Porter, commanding the Eastern Reserve Area, replied as follows:

"I have arranged to have published in THE RESERVISTS, the Reserve Publication of the Eastern Reserve Area, an article explaining the new policy of the Marine Corps Gazette, of devoting a portion of its space to the publication of material of particular interest to the Marine Corps Reserve, including instructions as to the manner in which contributions should be addressed.

"This new policy is an excellent one, in my opinion, and should do much to increase interest in the reserve, and educate its members by establishing a closer relationship between the Reserve and the active Marine Corps.

"With best wishes,

Sincerely yours,"

We trust that the policy outlined above will meet with general approval and that results beneficial to all concerned may be obtained.

### MARINE CORPS RESERVE BOARD

A board, with Brigadier General Ben H. Fuller as president, has been convened at Marine Corps Headquarters to consider and recommend to the Major General Commandant, policies and regulations intended to promote the efficiency of the Marine Corps Reserve.

The board has been meeting regularly since November and has been studying problems of procurement, training, promotion and others of like nature, giving careful consideration to recommendations submitted by various officers relative to these matters.

## OFFICER IN CHARGE, MARINE CORPS RESERVE

Brigadier General B. H. Fuller, U.S.M.C., Assistant to the Major General Commandant, has been designated as Officer in Charge, Marine Corps Reserve. General Fuller is interested in the Reserve and is desirous of hearing the views of Reserve Officers on matters of reserve policy.

Reserve Officers visiting Washington, D. C., are invited to call on General Fuller, Room 3032, Navy Building, 17th and B Sts., N. W., Washington, D. C.

## SUMMER TRAINING, SUMMER 1928

The great increase in the number of reserve officers trained this last summer over previous years is shown by the following figures:

Trained Fiscal Year 1928, 88 officers and 207 enlisted men.

Trained Fiscal Year 1929, 180 officers and 475 enlisted men.

This includes officers attached to Fleet Companies. The men are those attached to the Fleet Reserve Companies.

This is the first time since the reorganization of the Reserve that appropriations permitted a definite progressive schedule to be carried out. In keeping with this program, Advanced, Company Officers, Basic and Signal Courses were authorized. This year those attending were given basic instruction in the course to which they were assigned. Next summer, funds permitting, these officers upon reporting for training will be assigned the advanced course in their class. After completion of the second year officers who desire may specialize in the branch of service to which they are best fitted and as far as possible training in this specialty will then be their annual assignment in the future.

## FLEET MARINE CORPS RESERVE COMPANIES

The Major General Commandant has authorized six additional companies of the Fleet Marine Corps Reserve:

308th Company, Worcester, Mass.

First Lieutenant Ivan E. Bigler, F.M.C.R., Commanding.

Second Lieutenant William K. Latons, F.M.C.R.

Second Lieutenant John G. Kapowich, F.M.C.R.

312th Company, Portland, Maine.

Captain Charles E. Fogg, F.M.C.R., Commanding.

Second Lieutenant William J. Dow, F.M.C.R.

313th Company, Milwaukee, Wis.

Second Lieutenant LeRoy Hauser, V.M.C.R.

314th Company, St. Paul, Minn.

First Lieutenant George R. Lewis, F.M.C.R.

315th Company, Chicago, Ill.

316th Company, Seattle, Wash.



## ORGANIZATION OF FLEET RESERVE COMPANIES

Peace time tables of organization of Rifle Companies, U.S.M.C., give the organization of Fleet Reserve Companies. These units are therefore expected to be self sustaining when reporting for active duty, having a complete organization including mess sergeants, cooks, etc.

## WARRANT OFFICERS

The assignment of Marine Gunners to duty with a Fleet Reserve Company is authorized to fill vacancies caused by shortage of commissioned officers on duty with the company. This authority is granted in order to avoid the necessity of detailing from a Fleet Company a non-commissioned officer who has received his warrant as a reward for his services in the company. In considering a Warrant Officer for assignment to company duty, past services within the organization in which he served is the determining factor.

## RESERVE AVIATION

Beginning July 1, 1928, four training centers were established for training enlisted men of the Reserve in Aviation. At each of these stations there are assigned as instructors, officers and men of the Reserve as follows:

## SQUANTUM, MASS.

Instructor: Second Lieutenant George B. Stephens, F.M.C.R.  
Mechanics: First Sergeant Leroy E. Turner, VMCR.  
Gunnery Sergeant Ernest D. Jones, F.M.C.R.  
Gunnery Sergeant Reuben D. Boling, F.M.C.R.  
Gunnery Sergeant Donald McKay, F.M.C.R.

## ROCKAWAY BEACH, L. I., N. Y.

Instructors: First Lieutenant Benjamin Reisweber, F.M.C.R.  
Second Lieutenant Erwin G. Taylor, F.M.C.R.  
Mechanics: Gunnery Sergeant Jesse L. Bealor, F.M.C.R.  
Gunnery Sergeant Travis J. Barnes, F.M.C.R.  
Gunnery Sergeant Joseph Gordon, F.M.C.R.  
Gunnery Sergeant Thomas J. Wood, F.M.C.R.

## GREAT LAKES, ILLINOIS

Instructor: Captain Chester J. Peters, F.M.C.R.  
Mechanics: Gunnery Sergeant Charles P. Gray, F.M.C.R.  
Gunnery Sergeant William E. Berryman, F.M.C.R.  
Sergeant William D. Davis, F.M.C.R.

## SAND POINT, SEATTLE, WASHINGTON

Instructor: First Lieutenant Livingston B. Stedman, F.M.C.R.

Mechanics: Gunnery Sergeant Carl J. Buschena, F.M.C.R.

Gunnery Sergeant Edward Krawczyk, F.M.C.R.

Gunnery Sergeant Frederick E. Sparling, F.M.C.R.

To date there have been assigned to active duty for primary instruction (42) privates first class, Volunteer Marine Corps Reserve, of this number (11) have completed primary instruction and have been sent to the Naval Air Station, Pensacola, Florida for advanced instruction.

These courses are open to college men who have completed the ground school course as prescribed by the United States Navy and given in certain accredited colleges or universities. These men are enlisted as privates, Volunteer Marine Corps Reserve, promoted to private first class, and assigned to active duty. Upon completion of these courses they will be commissioned Second Lieutenants, Volunteer Marine Corps Reserve and assigned to active duty for one year for further instruction.

There are no funds available for training present reserve officers who are not fliers in elementary aviation and there is no prospect in the near future of such training being given.

## TROPHY FOR SMALL BORE RIFLE COMPETITION

At an early date it is desired to offer for individual competition with target rifle a trophy to be competed for annually by the Fleet Marine Corps Reserve Companies. Several Companies have already contributed toward the purchase of this trophy and it is believed that sufficient funds will be raised within a short time to permit its purchasing. Rules for the competition will be published by Headquarters, Marine Corps at a later date.

## APPOINTMENTS IN THE MARINE CORPS RESERVE

The following commissions and warrants have been issued in the Marine Corps Reserve:

Captain Thomas G. Letchworth, V.M.C.R.

1402 Commerce Building,

Kansas City, Mo.

First Lieutenant Ivan E. Bigler, F.M.C.R.

122 Elm Street,

Worcester, Mass.

First Lieutenant Emil M. Northenscald, V.M.C.R.

1274 Edmund Street,

St. Paul, Minn.

First Lieutenant James B. Johnson, V.M.C.R.

317 W. 58th Street, Care H. Parr,

New York, N. Y.

Second Lieutenant Samuel F. Pryor, Jr., V.M.C.R.

Indian Field Road, Greenwich, Conn.

Second Lieutenant William J. Dow, F.M.C.R.  
187 Middle Street,  
South Portland, Maine.  
Second Lieutenant William K. Latons, F.M.C.R.  
20 Downing Street,  
Worcester, Mass.  
Second Lieutenant John G. Kapowich, F.M.C.R.  
25 Circuit Avenue,  
Worcester, Mass.  
Marine Gunner William J. Monaghan, F.M.C.R.  
1277 Morris Avenue,  
New York, N. Y.  
Marine Gunner James F. Whitney, V.M.C.R.  
1849 Browning Building,  
Los Angeles, Calif.  
Quartermaster Clerk Claude C. Hamel, V.M.C.R.  
1736 "G" Street, N. W.,  
Washington, D. C.  
Captain Wethered Woodworth, V.M.C.R.  
1 East 33rd St.,  
Baltimore, Md.  
Second Lieutenant Newton B. Barkley, V.M.C.R.  
1509 Duffosst Street,  
New Orleans, La.  
Second Lieutenant Howard W. Houck, V.M.C.R.  
8523 Fort Hamilton Parkway,  
Brooklyn, N. Y.  
Second Lieutenant George J. Burkhard, V.M.C.R.  
2001 Allston Way,  
Berkeley, Calif.

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## THE MARINE CORPS AND AVIATION

By CAPTAIN THOMAS R. SHEARER, U.S.M.C.

*A lecture prepared in connection with Ground School and Indoctrination Course  
for Marine Corps Reserve Aviation Students.*

THE employment of infantry as part of the regular complement of Vessels of War was common to the Phoenecians and to all the maritime States of Greece at least five centuries before the commencement of the Christian Era. In the earlier period of history it was not so. When vessels were no larger than pentekonteres—open boats pulling fifty oars—perhaps up to the time of Biremes, the warriors were the oarsmen. But as Naval science progressed, and the size of the vessels increased, there gradually sprang up distinct classes, which together made up the personnel of the Navies about 500 B.C. One of these classes was the fighting men or Epibatae, translated Marines. Marines are especially mentioned in the account of the battle of Lode, in the time of Darius, king of Persia, about 479 B.C.

In estimating the strength of the Persian Naval force which accompanied the army of Xerxes to Greece, Herodotus says, "Each vessel had on board, besides native soldiers, thirty fighting men who were either Persians, Medes, or Socans.

At the dawning of the day of the battle of Salamis, the men-at-arms of the Greek fleet were assembled on the shore, and speeches were made to them. "The best of all was that of Themistocles, who throughout, contrasted what was noble with what was base, and bade them in all that came within the range of man's nature always to make choice of the nobler part." These men-at-arms, or soldiers, which formed part of the complement of the Greek trireme, were called Epibatae, a word all authorities agree in rendering into English by the word, Marines.

In the earlier period of Naval history, when opposing fleets, drawn up in parallel lines, closed at once and decided the issue of battle by a hand to hand contest, the number of Marines aboard each vessel was as large as could be accommodated. But when, in the process of time, military science became better understood, and its principles came to be applied to the management of fleets, Naval tactics grew to be an art, and skillful maneuvers and evolutions, performed with wonderful celerity and precision, took the place of the old style of rushing headlong into battle, hence, with the improved tactics came a reduction of the number of Marines.

"Realizing the necessity for sea soldiers, the Corps of Marines of Great Britain was originally instituted in 1664, and in addition to being trained as soldiers for duty ashore were trained in seamanship for duty as seamen afloat." Nicholas, in his history of the Royal Marines, gives full accounts of all the battles in which that Corps participated, and the British Marine has acquitted himself with credit in many a hard fought battle.

The United States Marine Corps has well sustained the high reputation for steadfast courage and loyalty which has been handed down to it from the days of Themistocles. "The first authentic record of Marines in America bears the date of 1740, and on the 8th of June, 1775, the Continental Congress resolved 'that the compact between the crown and the people of Massachusetts Bay is dissolved,' and on the 10th of November, before a single vessel of the Navy was sent to sea, the Corps, consisting of two battalions, was organized by resolution; these marines constituted the first armed forces established for the service and defense of the infant American nation and were the first to bear the name, American Marines."

"These first American Marines saw action almost at once, the companies of one battalion being drafted immediately aboard the vessels of the Continental Navy, while the second was held ashore in Philadelphia for an emergency. The emergency came in the autumn of 1776 when Washington called for all possible reinforcements to enable his army to make a stand on the Delaware river, following its disastrous retreat across New Jersey. Joining Washington on the eve of the battles of Trenton and Princeton, this powerful well trained battalion of Marines, proved a force of inestimable worth in the conflicts that followed, their heavy casualty list attesting to the severity of the fighting in which they engaged."

"After these battles this Marine battalion remained with the Army throughout the remainder of the Revolutionary War, serving brilliantly through the long land campaign to its victorious conclusion while their comrades at sea participated in the victories of Barry, Hopkins, and John Paul Jones."

"Their record since that time has been equally distinguished and notable. The Marine as a soldier is distinct from all others of the nation's armed forces, in that he may be landed to protect American lives and rights without a declaration of war. This protection of American lives and rights is the Marine's profession, and the exercise of it has brought him constantly into action and in every clime even during the periods when the United States, as a whole, enjoyed the most profound peace."

"Out of the more than one hundred and fifty-two years since the declaration of Independence, the Marines have been in action more than ninety-five. Of the twenty-one years from the Spanish-American War in 1898 to the conclusion of the Great War, twenty were marked by Marine Campaigns and Expeditions. One only, 1913, was a year of peace and no action."

During the period between the Spanish-American War and the War with Germany, due to growth both in size and importance of the Nation, and due to the rapid growth and improvement of modern tactics and war machines aided by science and invention, it became necessary to increase the size of the Corps and to add, in addition to infantry arms, those of other Corps, including Signal, Artillery, and finally Aviation so as to have a completely rounded out and efficient fighting machine.

The first Marine Officer completed the course for designation as a Naval Aviator in 1912, and from the nucleus of two or three officers and a few enlisted men at that time, the present aviation force of the Marine Corps has sprung with a present authorized strength of 104 officers and 908 enlisted men, peace time organization being as follows:

"Aircraft Squadrons, East Coast Expeditionary Force, Quantico, Virginia, consists of:

- 2 Observation Squadrons
- 2 Fighting Squadrons
- 1 Utility Squadron
- 1 Service Squadron
- 1 Kite Balloon Squadron,  
Headquarters.

Aircraft Squadrons, West Coast Expeditionary Force, Naval Air Station, San Diego, Calif., consists of:

- 2 Observation Squadrons
- 1 Fighting Squadron
- 1 Utility Squadron,  
Headquarters.

With the First Brigade, Port au Prince, Haiti:

- 1 Observation Squadron

On Island of Guam:

- 1 Patrol Squadron



"The organization of a squadron is similar to the naval organization, with the division as an administrative unit and the squadron as a tactical unit. In order, however, to have an organization capable of large expansion in time of emergency, the peacetime squadrons are only one-third their war strength; that is, one division active and two divisions inactive. A division consists of seventy-five men, nine commissioned officers and one warrant officer, eight of the commissioned officers being pilots. This gives a nucleus around which to recruit the two inactive divisions, and the addition of a squadron commander and staff gives a war strength unit which should be fairly efficient and capable of shortly performing any duty. A division consists of six active planes and three in reserve. Therefore, a full strength squadron would consist of:

- 29 Commissioned officers (28 pilots)
- 3 Warrant officers
- 232 Enlisted men
- 18 Active planes
- 9 Reserve planes.

"When a state of war was declared to exist on April 6, 1917, the United States Marine Corps was composed of 462 commissioned officers, 49 warrant officers, and 13,725 enlisted men on active duty. This strength was expanded, including reserves, to a total of 75,101 officers and enlisted men."

"Despite the fact that on the outbreak of the war, 187 officers and 4,546 enlisted men were on duty beyond the continental limits of the United States, and 49 officers and 2,187 enlisted men were serving on board the cruising vessels of the Navy, only five weeks later, on June 14, 1917, the Fifth Regiment of Marines, consisting of 70 officers and 2,689 enlisted men, approximately one-fifth of the enlisted strength of the Corps, completely organized and ready for service, sailed for France."

"This Regiment was soon followed by the Sixth Regiment and the Sixth Machine Gun Battalion and the Fourth Brigade of Marines was organized and as one of the two Infantry Brigades of the Second Division of Regulars, engaged in actual battle in no less than eight distinct operations in France, of which four were major operations."

"On July 30, 1918, the first Marine Aviation Force (less Squadron "D") disembarked at Brest, France, and formed the Day Wing of the Northern Bombing Group, Squadron "D" joined the Day Wing in October, 1918."

"The first Marine Aeronautic Company, based at Ponta Delgada, Azores, equipped for water flying only, performed patrol duty from January, 1918, to November 11, 1918."

"The Marine Aviation Section, Naval Air Station, Miami, Florida, performed arduous patrol duties in the Florida Straits in connection with the Navy from July, 1918, until the date the armistice went into effect."

After the signing of the Armistice and the completion of demobilization, Congress authorized a permanent strength for the Marine Corps of 27,000 men,

and since that time the Marine Corps has been organized into Regiments and advance base expeditionary forces, with Aviation Squadrons forming part of these forces.

"It is pertinent at this time to state that Marine Corps Aviation is an integral part of Naval Aviation, and its mission is to furnish the air forces necessary for expeditionary duty, advanced base operations, and the defense of Naval bases outside the continental limits of the United States which are defended on shore by the Marines. It also has to be ready to serve with the Navy as a reserve or furnish replacements for Naval Aviation, and therefore must be fully trained along Naval lines. In addition to this, there is always a possibility of service with the Army, and training for that work is very different from Naval requirements. In peace time therefore it is necessary to include in our training schedules, work that will cover both Army and Navy requirements, as well as that which is peculiarly adapted to the Marine Corps."

Occupation of the Haitian Republic has continued since the World War to the present time, and expeditions to Nicaragua and China are now engaged in the protection of American life and property and Aviation Squadrons are performing valuable and distinguished duties with each of these Forces particularly those operating in Nicaragua.

"Such in brief is the history of the Marine Corps from its founding. We believe that at present it is in a condition of efficiency and readiness for service to the nation, worthy of its matchless record, and look to the future confident that as long as American Marines exist, they will prove worthy of the priceless heritage of their Corps, heroic past, and of its motto, 'Always Faithful.'"

Quotations and transactions were taken from the following:

- A brief History of the U. S. Marine Corps,  
by Major General John A. Lejeune, U.S.M.C.
- History of the United States Marine Corps,  
by Major Richard S. Collum, U.S.M.C.
- The United States Marine Corps in the World War,  
by Major Edwin N. McClellan, U.S.M.C.
- A Lecture entitled, "Definition and Mission of  
Marine Corps Aviation,"  
by Major Edwin H. Brainard, U.S.M.C.

